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CURRICULUM VITAE of Lorne A. Babiuk

PERSONAL

Born - January 25, 1946
Married - Betty Lou Wagar
Children - Shawn (born 1975) and Kimberley (born 1977)
Home Address - 245 East Place, Saskatoon, SK S7J 2Y1 PH: 306-373-3855

ACADEMIC CREDENTIALS

B.S.A., University of Saskatchewan, 1967, College of Agriculture, Soil Science
M.Sc., University of Saskatchewan, 1969, Department of Soil Science, Soil Microbiology
Ph.D., University of British Columbia, 1972, Department of Microbiology, Virology
D.Sc., University of Saskatchewan, 1987, Department of Veterinary Microbiology

OTHER CREDENTIALS

RM (CCM) Registered Microbiologist - Canadian College of Microbiologists
FIDSA - Fellow Infectious Disease Society of America
FRSC - Fellow Royal Society of Canada
Member - European Academy of Science
Saskatchewan Order of Merit Award - 2004

APPOINTMENTS AND PROMOTIONS (U.O.F.S.)

Assistant Professor, Probationary, June 1973 - Department of Veterinary Microbiology
Associate Professor, Probationary, July 1, 1975 - Department of Veterinary Microbiology
Associate Professor, Tenured, July 1976 - Department of Veterinary Microbiology
Professor, July 1979-present - Department of Veterinary Microbiology
Co-ordinator Respiratory Disease Program, 1980-1986 - Veterinary Infectious Disease Organization
NSERC Chair in Biotechnology, 1985-1995 - University of Saskatchewan/BIOSTAR Inc.
Associate Director (Research), 1984-1993 - Veterinary Infectious Disease Organization (VIDO)
Director, 1993-present - Vaccine & Infectious Disease Organization (VIDO)
Canada Research Chair (Vaccinology) - Tier I - 2001-present

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HONORS (MEDALS, FELLOWSHIPS, PRIZES)

Saskatchewan Government Entrance Scholarship, University of Saskatchewan - 1963-64
University Undergraduate Scholarship, University of Saskatchewan - 1964-65
Pioneer Grain Co. Scholarship, University of Saskatchewan - 1965-66
Bowman Bros. Prize in Crop Science, University of Saskatchewan - 1965-66
Louis Ware Scholarship, University of Saskatchewan - 1966-67
Saskatchewan Institute of Agronomy, University of Saskatchewan - 1966-67
Top Student in Graduating Class - 1967
National Research Council Bursary, University of Saskatchewan - 1967-68
National Research Council Scholarship, University of Saskatchewan - 1968-69
National Research Council Scholarship, University of British Columbia - 1971-72
Medical Research Council Fellowship, University of Toronto - 1972-73
Norden Teacher of the Year Award - 1977-78
Saskatchewan Veterinary Medical Association Award - 1978
Distinguished Leaders in Health Care - 1978
WCVM Preclinical teacher award - 1980
Diamond Jubilee Award - Distinguished Graduates in Agriculture - 1986
Rotarian Wheel Award in Science - 1989
Centennial Lecturer - University of Toronto - 1989
Canadian Soc. Microbiology Award - 1990
Rotarian Wheel Award in Science and Technology - 1991
Peat Marwick, High Tech Entrepreneurial Award (Finalist) - 1991
Hungarian Academy of Science (Microbiology Society) Honorary Membership - 1991
Distinguished Lecturer - Colorado State University - 1991
American Association Veterinary Immunologist Award - 1992
Xerox Canada-Forum Award - 1993
University of Saskatchewan Distinguished Researcher Award - 1994
Emerging Science and Technology Award for Innovation and Excellence USA - 1995
Pfizer Prize in Animal Health - 1998
National Merit Award (Ottawa Life Sciences) - 1998
Fellow Royal Society of Canada - 1999
Bill Snowden Memorial Award (Australia) - 2000
Appointed Member - European Academy of Sciences - 2002
Industry Leadership Award - Canadian Animal Health Institute - 2003
Saskatchewan Order of Merit - 2004
Anne & Neil McArthur Research Award (McMaster University) - 2004
Appointed Member - Serbian Academy of Sciences - 2004

RECOGNITIONS

Great Minds of the 21st Century
1000 World Leaders of Scientific Influence
Follow the Leaders - Government of Canada - Canadian Innovation in Biotechnology - 2003
21st Century Award of Achievement (IBC)
Who's Who in America

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Who's Who in the World
Who's Who in the West
Who's Who in the 21st Century
2000 Outstanding Intellectuals in the 21st Century
International Directory of Distinguished Leadership
Five Thousand Personalities of the World
Canadian Who's Who
Who's Who in Veterinary Science and Medicine
International Scientist of the Year (2001, 2002)
2001 Man of the Year (American Biographical Institute)
Who's Who in Medicine and Health Care

TEACHING RECORD

1995-96

VT MC 898.3 - 20 hours tutorial

1994-95

VT MC 898.3 - 20 hours tutorial

1993-94

VT MC 333 - 11 hrs lecture

VT MC 899.6 - 30 hours tutorial

VT MC 898.3 - 30 hours tutorial

1992-93

VT MC 333 - 30 hrs lecture; 16 hrs laboratory

VT MC 899.6 - 15 hrs tutorial

VT MC 898.3 - 30 hrs tutorial

1991-92

VT MC 333 - 30 hrs lecture; 16 hrs laboratory

VT MC 899.6 - 15 hrs tutorial

VT MC 899.6 - 30 hrs tutorial

1990-91

VT MC 333 - 30 hrs lecture; 16 hrs laboratory

HMT 899.6 - 6 hrs lecture;

1989-90

VT MC 333 - 30 hours lecture; 16 hours laboratory

VT MC 833 - 20 hours lecture; 20 hours tutorial

1988-89

VT MC 333 - 30 hours lecture; 16 hours laboratory

VT MC 833 - 20 hours lecture; 20 hours tutorial

1987-88

VT MC 333 - 30 hours lecture; 16 hours laboratory

1986-87

VT MC 830 - 20 hours lecture; 10 hours tutorial

VT MC 333 - 30 hours lecture; 16 hours laboratory

VT MC 833 - 20 hours lecture; 20 hours tutorial

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1985-86

- VT MC 830 - 20 hours lecture; 10 hours tutorial
- VT MC 333 - 30 hours lecture; 16 hours laboratory

1984-85

- VT MC 830 - 20 hours lecture; 10 hours tutorial
- VT MC 333 - 30 hours lecture; 16 hours laboratory

1983-84

- VT MC 833 - 6 hours lecture
- VT MC 333 - 26 hours lecture; 16 hours laboratory
- VT MC 830 - 20 hours lecture; 10 hours tutorial

1982-83

- VT MC 333 - 26 hours lecture; 16 hours laboratory
- VT MC 830 - 20 hours lecture; 10 hours tutorial

1981-82

- VT MC 233 - Virology, 24 hours lectures; 18 hours laboratory
- VT MC 830B - 20 contact hours
- VT MC 833B - 6 hours lectures; 22 hours contact

1980-81

- VT MC 233 - 24 hours lectures; 18 hours laboratory
- VT MC 830B - 20 hours

1979-80

- VT MC 833 - 70 hours
- VT MC 831A - 70 hours
- VT MC 830 - 48 hours
- VT MC 233 - 48 hours

1978-79

- VT MC 233 - Virology, 48 hours
- VT MC 831A - 70 hours

1977-78

- VT MC 130 - Introductory Microbiology, 2 hours
- VT MC 233 - Virology, 38 hours
- VT MC 833 - 78 hours

1976-77

- VT MC 131 - Immunology, 32 hours
- VT MC 233 - Virology, 38 hours
- VT MC - Epizootiology, 2 hours
- VT CL 370 - Correlative Medicine, 8 hours
- VT MC 830 - 6 hours

1975-76

- VT MC 130 - Introductory Microbiology, 2 hours
- VT MC 131 - Immunology, 32 hours
- VT MC 233 - Virology, 34 hours
- VT CL 370 - Correlative Medicine, 8 hours
- VT MC 836B - 20 hours

1974-75

- VT MC 131 - Immunology, 32 hours

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VT MC 233	- Virology, 33 hours
VT MC 831	- 43 hours
VT MC 812	- Anatomy, 11 hours
1973-74	
VT MC 131	- Immunology, 32 hours
VT MC 130	- Introductory Microbiology, 32 hours
VT MC 233	- Virology, 9 lectures and 34 hours laboratory
VT An 812	- Anatomy, 11 hours
VT MC 830	- 11 hours

Summer course in Tissue Culture - 10 hours

THESES SUPERVISED/RESEARCH TRAINING

Students Supervised: IN PROGRESS

H. Huang - PhD (defending 2004)	V. Kulshrestha - PhD	Candice Jackel - PhD
T. Whale - PhD	C. Tsang - PhD	Katie Herzog - PhD
I. Moshhynsky - PhD (defending 2004)	J. van Kessel - MSc	Mike Dannabassis - PhD

Post-Doctoral Fellows: IN PROGRESS

L. Xing	A. Nichani	C. Zheng	H. Yu
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Post-Doctoral Fellows: COMPLETED

A. Grewal	M. Sabara	B. Harrach	A. Mena
S. van den Hurk	B. Blumenthal	M. Benko	X. Ioannou
M. Redmond	K. Ready	T. Roberts	R. Pontarollo
H. Bielefeldt-Ohmann	W. Kornikakis	S. Tikoo	X. Li
K. Ijaz	G. Hughes	S. Mittal	M. Shmulevitz
M. Sethi	D. Godson	M. Baca-Estrada	
X. Liang	D. Yoo	M. Morsey	
A. van Kessel	G. Cox	O. Yarosh	
B. Ngeleka	M. Jiang	Y. Li	
J.B. Lee	S. Gomis	S. Khattar	
Z. Papp	P.S. Reddy	R. Braun	
A. Zakhartchouk	Q. Liu	V. Gerdts	
L. Zhang	R. Rankin	B. Lohr	
Y. Zhou	M. Baxi	Q. Wu	

Graduate Students: Thesis Completed

Manoj, S. PhD. Strategies to enhance the efficacy of DNA Vaccines. Thesis accepted 2003.

Kulshrestha, V. MSc. Molecular characterization of BAV-3 33k protein. Thesis accepted 2003.

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Li, X. PhD. Molecular characterization of early region 4 of porcine adenovirus type 3. Thesis accepted 2003.

Schneberger, D. MSc. Immunization parameters that influence the immune response in mice to a DNA vaccine. Thesis accepted 2003.

Stocki, S. PhD Identification of genomic differences between *Escherichia coli* strains pathogenic for poultry and *E. coli* K-12 M6 1655. Thesis accepted 2002.

Veerachato, G. MSc. *Streptococcus dysgalactiae* interactions with host cells and characterization of GACP. Thesis accepted 2002.

Suradhat, S. PhD. Characterization of immune responses induced by plasmids encoding bovine rotavirus antigens in the murine model. Thesis accepted. 1999.

Raggo, C. PhD. The construction and characterization of bovine herpesvirus-1 expressing cytokines. Thesis accepted. 1999.

Lewis, P.J. PhD. Characterization and modulation of immune responses in mice to a DNA-based vaccine. Thesis accepted. 1998.

Idamakanti, N. M.Sc. Molecular characterization of early region-3 of bovine adenovirus-3. Thesis accepted. 1998.

Khaftar, S. PhD. Identification and characterization of bovine herpesvirus-1 minor glycoproteins L, H and M. Thesis accepted. 1997.

Papp, Z. PhD Mucosal and systemic immune responses induced by immunization of cotton rats with recombinant adenoviruses. Thesis accepted. 1997.

Li, Y. PhD. Structural and functional study of bovine herpesvirus-1 glycoprotein B in the interaction with Mardin Darby bovine kidney cells. Thesis accepted. 1996.

Jiang, M. PhD. Molecular characterization of *Streptococcus uberis* CAMP factor, lactoferrin binding protein and their upstram genes. Thesis accepted. 1996

Lee, J.B. Ph.D. Molecular and immunobiological characterization of VP8, N-terminal trypsin cleavage product of bovine rotavirus VP4. Thesis accepted. 1996.

Pontarollo, R.A. Ph.D. Iron acquisition and characterization of bacteriophage-like genes of *Haemophilus somnus*. Thesis accepted. 1995.

Klassen, M. Ph.D. Bovine parainfluenza virus type 3 F and HN glycoproteins; Molecular biology and immunobiology in *Sigmodon hispidus* cotton rats. Thesis accepted. 1995.

Warren, L. M.Sc. The effects of bovine herpesvirus-1 on pulmonary endothelial cell function.

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Thesis accepted. 1994.

Cox, G. Ph.D. Immunobiology of bovine coronavirus. Thesis accepted. 1994

Schuh, J. Ph.D. Immunopathogenesis of acute experimental bovine herpesvirus-1 infection in neonatal versus weanling calves. Thesis accepted. 1994

Popowych, Y. M.Sc. An assessment of *in vitro* assays used to detect BHV-1 specific CMI responses. Thesis accepted. 1993.

Pfeifer, C. M.Sc. Interactions of *Haemophilus somnus* with bovine leukocytes. Thesis accepted. 1992.

Tikoo, S., Ph.D. Characterization of bovine herpesvirus-1 glycoprotein gIV. Thesis accepted. 1992.

Zhao, D. M.Sc. Molecular characterization and humoral immunity of bovine rotavirus VP4, VP6 and VP7. Thesis accepted. 1992.

Godson, D., Ph.D. Non-MHC restricted cytotoxicity mediated by bovine intestinal intraepithelial leukocytes against bovine coronavirus infected target cells. Thesis accepted. 1990.

Hutchings, D., Ph.D. Antigen - Non-specific and specific effects of bovine herpesvirus-1 on lymphocyte function. Thesis accepted. 1990.

Fitzpatrick, D., Ph.D. Immunobiology of bovine herpesvirus-1 glycoproteins I and III. Thesis accepted. 1989.

N. Mohammed. Ph.D. Isolation and characterization of bovine intestinal leukocytes. Thesis accepted. 1989.

Griebel, P.J., Ph.D. Changes in bovine peripheral blood leukocyte function and subpopulation dynamics following a primary BHV-1 infection. Thesis accepted. 1988.

T. Syafriati, M.Sc. Production of monoclonal antibodies to bovine herpesvirus-2. Thesis accepted. 1987.

D. Deregt, Ph.D. Characterization of bovine coronavirus glycoproteins. Thesis accepted. 1987.

C. Dubuc, M.V.Sc. Studies on diagnosis of bovine respiratory syncytial virus infections. Thesis accepted. 1985.

S. van den Hurk, Ph.D. Characterization of BHV-1 glycoproteins. Thesis accepted. 1984.

M. Sabara, Ph.D. Characterization of Bovine Rotaviruses. Thesis accepted. 1982.

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G.A. Weinmaster, M.Sc. Bovine Herpesvirus-1 Gene Products. Thesis accepted. 1981.

M.M. Carpio, Ph.D. Bovine Rotavirus Cell Interactions. Thesis accepted. 1980.

C.K. Ho, Ph.D. Immune Mechanisms Against Canine Distemper. Thesis accepted. 1979.

K.A. Mohammed, Ph.D. Rotavirus of Neonatal Calf Diarrhea. Thesis accepted. 1977.

PATENTS

Issued:

1. US Patent No. 5,672,350. "Recombinant Bovine Coronavirus E2 and E3 Polypeptides and Vaccines".
2. European Patent No. 0,527,724. "Compositions and Treatments for Pneumoniae in Animals".
3. European Patent No. 0,652,947. "Assembled Viral Particles and their Used in a Vaccine to Rotaviral Disease".
4. US Patent No. 5,585,264. "Nucleotide Sequences Encoding Recombinant Bovine Herpesvirus Type 2 GI, GIII and GIV Polypeptides."
5. US Patent No. 5,476,657. "Pasteurella Leukotoxin Compositions and Uses Thereof."
6. Canadian Patent No. 2,014,033 for "Composition and Treatments for Pneumonia in Animals".
7. US Patent No. 5,151,267 for "Bovine Herpesvirus Type 1 Polypeptides and Vaccines".
8. US Patent No. 5,369,026 for "DNA Encoding Bovine Coronavirus Polypeptide E2 and E3".
9. US Patent No. 5,124,145 for "Method for the Prevention and Treatment of Bovine Mastitis".
10. US Patent No. 5,234,684 for "Method for the Prevention and Treatment of Bovine Mastitis".
11. Canadian Patent No. 1,338,069 for "Bovine Herpesvirus Type 1 Polypeptides and Vaccines".
12. US Patent No. 5,820,868 for "Recombinant Protein Production in Bovine Adenovirus Expression Vector System."
13. US Patent No. 5,879,895 for "Recombinant Bovine Herpesvirus Type 1 Polypeptides and Immunoassays."
14. US Patent No. 5,858,989 for "Vaccines Comprising Nucleotide Sequences Encoding Bovine Herpesvirus Type 1 GI, GIII and GIV".
15. European Patent No. EP,0,618,814,B "Recombinant Bovine Herpesvirus Type 1 Polypeptides and Vaccines."
16. US Patent No. 6,001,591 for "Recombinant Bovine Adenoviruses".
17. US Patent No. 6,086,890 for "Bovine Adenovirus Expression Vector System".
18. US Patent No. 6,319,716 B1 for "Bovine Adenovirus Type 3 Genome and Vector Systems Derived Therefrom"
19. US Patent No. 6,379,944 B1 for "Mammalian Cell Lines Expressing Bovine Adenovirus Functions"
20. US Patent No. 6,492,343 B1 for "Porcine adenovirus type 3 genome".

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21. Australia Patent No. 766670 for "Porcine adenovirus type-3 genome"
22. US Patent No. 6,794,163 for "Methods to culture circovirus"
23. US Patent No. 6,849,446 for "Modified bovine adenovirus having altered tropism"

Pending:

1. US Patent Application for "CAMP Factor Gene of *Streptococcus Uberis*".
2. US Patent Application for "Recombinant Protein Production in Bovine Adenovirus Expression Vector System".
3. US Patent Application for "Recombinant Bovine Herpesvirus Type 1 Polypeptides and Vaccines".
4. US Patent Application for "A Novel Porcine Circovirus (PCV) Isolated From Postweaning Multisystemic Wasting Syndrome (PMWS)".
5. US Patent Application for "Bovine Adenovirus Type 3 Genome".
6. US Patent Application for "Recombinant Protein Production In Bovine Adenovirus Expression Vector System".
7. US Patent Application for "Recombinant Protein Production in a Bovine E1 Gene Deleted Vector System".
8. US Patent Application for "Recombinant Protein Production In Bovine E3 Gene Deleted Expression Vector System".
9. US Patent Application for "Yersinia Pestis Vaccine Composition and Method of Administration."
10. US Patent Application for "Porcine Adenovirus Vectored Vaccines."
11. US Patent Application for "Gene Therapy with Bovine Adenoviruses."
12. US Patent Application for "Recombinant Subunit Protein from Porcine Parvovirus Produced in Plants."
13. US Patent Application for "*In utero* Oral Nucleic Acid Immunization."
14. US Patent Application for "Methods to Culture Circovirus".
15. US Patent Application for "CpG Formulations and Related Methods"
16. US Patent Application for "Methods and Compositions for Promoting Growth and Innate Immunity in Young Animals."
17. US Patent Application for "Toll-Like Receptor 9 (TLR9) From Various Mammalian Species."
18. US Patent Application for "Post-weaning multisystem wasting syndrome virus from pigs."
- 19.

BOOKS, CHAPTERS IN BOOKS, EXPOSITORY AND REVIEW ARTICLES

Wilson, Aich, P., Jalal, S., Hodgson, P., Potter, A., Babiuk, L.A., and Griebel, P.J. 2005. Molecular analyses of disease pathogenesis: Application of bovine micro-arrays. Review: Veterinary Immunology Immunopathology. In press.

van Drunen Little-van den Hurk, S., S. Babiuk, and Babiuk, L.A. 2005. Needle-free delivery of veterinary DNA vaccines. DNA Vaccines. Editor Shen, Brandsma, and Saltsman. In press.

Babiuk, S., van Drunen Little-van den Hurk, S., and Babiuk, L.A. 2005. Delivery of DNA vaccines using electroporation. DNA Vaccines. Editor Shen, Brandsma, and Saltsman. In press.

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Skowronski, D.M., Astell, C., Brunham, R.C., Low, D.E., Petric, M., Roper, R.L., Talbot, P.J., Tam, T., and Babiuk, L.A. 2005. Severe acute respiratory syndrome (SARS): A year in review. *Annu. Rev. Med.* 56: 357-381.

Babiuk, L.A., van Drunen Littel-van den Hurk, S., and Tikoo, S.K. 2004. Infectious Bovine Rhinotracheitis/Infectious Pustular Vulvovaginitis. In: *Infectious Diseases of Livestock*. Ed. Coster and R.C. Tuslin. Oxford University Press. Chapter 79. pp. 875-886.

Babiuk, L.A., Babiuk, S.L., and B.A. Alsopp. 2004. Vaccination: An effective approach to reducing suffering and disease due to infectious disease. In: *Infectious Diseases of Livestock*. Ed. J.A.W. Coster and R.C. Tuslin. Oxford University Press. Chapter 11. pp. 239-247.

Manoj, S., Babiuk, L.A., and van Drunen Littel-van den Hurk, S. 2004. Approaches for enhancing the efficacy of DNA vaccines. *Crit. Rev. Clin. Lab. Sci.* 41: 1-39.

Gerdts, V., Tsang, C., Griebel, P.J., and Babiuk, L.A. 2004. DNA vaccination of the fetus: a new approach to induce protective immunity in the newborn. *Vaccine*. 22: 1717-1727.

van Drunen Littel-van den Hurk, S., Babiuk, S.L., and Babiuk, L.A. 2004. Strategies for Improved Formulation and Delivery of DNA Vaccines to Veterinary Target Species. *Immunological Reviews*. 199: 113-125.

Babiuk, L.A., Pontarollo, R., Babiuk, S., Loehr, B., van Drunen Little-van den Hurk, S. 2003. Induction of immune responses by DNA vaccines in large animals. *Vaccine*. 21: 649-658.

Mutwiri, G., Pontarollo, R., Babiuk, S., Griebel, P., van Drunen Little-van den Hurk, S., Mena, A., Tsang, C., Alcon, V., Nichani, A., Ioannou, X., Gomis, S., Townsend, H., Hecker, R., Potter, A., and Babiuk, L.A. 2003. Biological activity of immunostimulatory CpG DNA motifs in domestic animals. *Vet. Immun. and Immunopath.* 91: 89-103.

Babiuk, L.A., Gomis, S., and Hecker, R. 2003. Molecular Approaches to Disease Control. *Poultry Science*. 82: 870-875.

Babiuk, L.A. 2002. 3rd World Congress on Vaccines and Immunization – Meeting Highlights. *Expert Opinion, Biol. Ther.* 2: 665-669.

Babiuk, L.A. 2002. Immunization of Cattle: Current and Future Prospects. In: *Recent Developments and Perspectives in Bovine Medicine*. Ed. M. Kaske, H. Scholz, and M. Holtershinken, Klinik fur Rinderkrankheiten, Hannover, Germany. pp. 76-85.

Babiuk, L.A., Babiuk, S.L., and Baca-Estrada, M.E. 2002. Novel Vaccine Strategies. *Advances in Virus Research*. 58: 29-80.

Babiuk, L.A. 2002. Vaccination: A Management Tool in Veterinary Medicine. *The Veterinary Journal*. 164: 188-201.

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Potter, A. and Babiuk, L.A. 2001. New approaches for antigen discovery, production, and delivery: Vaccines for veterinary and human use. *Current Drug Targets: Infectious Disorders.* Vol. 1 259-272.

Babiuk, L.A. 2000. Vaccination: Present realities and future prospects. *Microbiology Australia.* 21: 16-19.

Babiuk, L.A., van Drunen Littel-van den Hurk, S., Loehr, B., and Uwiera, R. 2000. Veterinary Applications of DNA Vaccines. In: *Developments and Clinical Progress of DNA Vaccines.* Ed. Brown, F., Cichutek, K., and Robertson, J. 104: 71-79

Babiuk, L.A., Babiuk, S.L., Loehr, B., and van Drunen Littel-van den Hurk, S. 2000. Nucleic acid vaccines: Research tools or commercial reality. *Vet. Immunol. Immunopath.* 76: 1-23.

Babiuk, S.L., Baca-Estrada, M.E., Babiuk, L.A., Ewen, C., Foldvari, M. 2000. Cutaneous vaccination: The skin as an immunologically active tissue and the challenge of antigen delivery. *J. Controlled Release.* 66: 199-214.

van Drunen Littel-van den Hurk, S., Gerdts, V., Loehr, B., Pontarollo, R., Rankin, R., Uwiera, R., and Babiuk, L.A. 2000. Recent Advances in the Use of DNA Vaccines for the Treatment of Diseases of Farmed Animals. *Adv. Drug Delivery Rev.* 43: 13-28.

Babiuk, L.A., van Drunen Littel-van den Hurk, S., and Babiuk, L.A. 1999. Immunization of Animals: From DNA to the Dinnerplate. *Vet. Immunol. Immunopath.* 72: 189-202.

Towers, G.H.N., McCutcheon, A., Saxena, G., Matsuura, H., Page, J., Farmers, S., Gibbons, E., Roberts, T.E., Babiuk, L.A., Thorson, I.M., Stokes, R.W., Sokol, P., Klingemann, H., and Hancock, R.E.W. 1999. Antimicrobialactivities of phytochemicals from British Columbian medicinal plants. In: *Chemistry, Biological, and Pharmacological Properties of Medicinal Plants from the Americas.* Ed. Hostettmann, K., Gupta, M.P., and Marston, A. Harwood Academic Publ. Switzerland. pp. 125-142.

Babiuk, L.A. 1999. Vaccination of Animals. In: *Embryonic Encyclopedia of Life Sciences.* Nature Publishing Group. London, UK. www.els.net

Lewis, P.J. and Babiuk, L.A. 1999. DNA Vaccines: A Review. *Advances in Virus Research.* 94: 129-188.

Babiuk, L.A. 1999. Broadening the Approaches to Developing More Effective Vaccines. *Vaccine.* 17: 1587-1595.

Babiuk, L.A., Lewis, J., van Drunen Littel-van den Hurk, S. and Braun, R. 1999. DNA Immunization: Present and Future. *Advances in Veterinary Science.* 41: 163-179.

van Drunen Littel-van den Hurk, S., Braun, R.P. and Babiuk, L.A. 1999. Veterinary DNA

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Vaccines. In: DNA Vaccines: Methods and Protocols. Ed. Lowrie, D.B. and Whalen, R. Humana Press Inc. p. 79-94.

van den Hurk, S. and Babiuk, L.A. 1999. Therapy/Disease Prevention. In: Agroimmunochemistry Current Applications, CRC Press, Ed. J.C. Hall and S.R. Webb.

Godson, D.L., Baca-Estrada, M.E. and Babiuk, L.A. 1997. Applications of Bovine Cytokines. In: Cytokines in Veterinary Medicine. Ed. Schijns, V.E.C. and Horzink, M.C. CAB International. pg. 3-13.

Baca-Estrada, M.E., Babiuk, L.A., and Yoo, D. 1997. Hemagglutinin-Esterase glycoprotein gene of bovine coronavirus delivered by adenovirus vector induces mucosal immunity in cotton rats. In Mechanism in pathogenesis of enteric diseases. In: Advances in Experimental Medicine and Biology. Vol. 412: 431-433. Plenum Press, Ed. P. Paul, D. Francis and D. Benfield.

Yoo, D., Lee, J.B., Harland, R., Gibbons, E., Elazhury, Y., and Babiuk, L.A. 1997. Maternal immunization of pregnant cattle with recombinant VP8* protein of bovine rotavirus elicits neutralizing antibody to multiple serotypes. In Mechanism in pathogenesis of enteric diseases. In Advances in Experimental Medicine and Biology. Vol. 412: 405-411. Plenum Press, Ed. P. Paul, D. Francis, and D. Benfield.

Babiuk, L.A., Lewis, P.J., van Drunen Littel-van den Hurk, S., Tikoo, S.K. and Liang, X. 1997. Nucleic Acid Vaccines: Veterinary applications. In Current Topics in Microbiology and Immunology. Vol 222. pp. 91-107.

Horzinek, M.C., Desmettre, P., Denis, M., and Babiuk, L.A. 1997. General Description of Vaccines. In: Veterinary Vaccinology. Ed. Pastoret, P.P., Blancou, J., Vannier, P. and Verschueren, C. Elseviers Press. Chapter 6, pp. 131-148.

Van Oirschot, J., Strube, W., Babiuk, L.A. and Meloen, R. 1997. Categories of Vaccine Mechanisms of Action: Advantages and Disadvantages.. In: Veterinary Vaccinology. Ed. Pastoret, P.P., Blancou, J., Vannier, P. and Verschueren, C. Elseviers Press. Chapter 12, pp 257-278.

Babiuk, L.A., Lewis, P.J., Suradhat, S., van Drunen Littel-van den Hurk, S., Baca-Estrada, M., Tikoo, S. and Yoo, D. 1996. Polynucleotide Immunization: A novel approach to vaccination. In: Molecular Approaches to Control of Infectious Diseases: Vaccines 96, Cold Spring Harbor Laboratory Press. Editor: Brown, F., Norrby, E., Burton, D. and Mekalanos, J. pp. 33-38.

Babiuk, L.A. and Rouse, B.T. 1996. Herpesvirus vaccines. Advanced Drug Delivery Reviews. 21: 63-76

Yoo, D., Parker, M., Cox, G. and Babiuk, L.A. 1995. Zinc binding of the cysteine rich domain encoded in the open reading frame 1B of the RNA polymerase gene of coronavirus. In Corona and Related Viruses. Ed. Talbot, P.S. and Levy, G.A. Plenum Press, N.Y., pp. 437-442.

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Babiuk, L.A., Lewis, P.J., Cox, G. van Drunen Littel-van den Hurk, S., Baca-Estrada, M. and Tikoo, S.K. 1995. DNA immunization with bovine herpesvirus-1 genes. New York Academy of Sciences. pp. 50-66.

Babiuk, L.A. 1995. New approaches to the development of veterinary vaccines. Proceedings XXV World Veterinary Congress. 171-182.

Babiuk, L.A. 1995. Control of respiratory disorders in cattle - medical prevention. Proceedings XXV World Veterinary Congress. 251-260.

Babiuk, L.A., and Yoo, D. 1995. Trends in vaccination: Infectious agents and ectoparasites. In: Recombinant vaccines for the control of cattle ticks. Ed. J. de la Fuente, Elfos, Scientiae, Habana, pp. 47-70.

Babiuk, L. A., Morsey, M., Campos, M. and Harland, R. 1995. Viral-Bacterial synergistic interactions/Pathogenesis in cattle. In Haemophilus, Actinobacillus and Pasteurella. Ed. Donachie, W. Plenum Publishing Corp. pp 39-49.

Tikoo, S., Campos, M., Warren, L. and Babiuk, L.A. 1995. Bovine herpesviruses-1: Virology and Immunology. In Advances in Virus Research. Ed. Maromorish, K., Shatkin, A. and Murphy, F. Academic Press, New York, NY. pp 191-223

Hughes, H.P.A. and Babiuk, L.A. 1995. Potentiation of the Immune Response by Cytokines. In: Cytokines in Animal Health and Disease. Ed. M.J.Meyers and M.P.Murtaugh. pp 183-202.

Morsey, M., Campos, M., Cox, G., Van Kessel, A. and Babiuk, L.A. 1995. The Biology of Interleukin-2 in Veterinary Medicine. In: Cytokines in Animal Health and Disease. Ed. M.J. Meyers and M.P. Murtaugh. pp. 89-119.

Babiuk, L.A. and Potter, A.A. 1994. Veterinary Vaccines. Biotechnology Advances. 12: 489-523.

Hughes, H. and Babiuk, L.A. 1994. Potentiation of vaccines through effective adjuvant formulations and manipulation of the immune response. In: Modern Vaccinology. Ed. Kurstak, pp 87-118.

Campos, M., Godson, D.L., Hughes, H.P.A. and Babiuk, L.A. 1994. Cytokine applications in infectious diseases. In: Cell- Mediated Immunity in Ruminants. Ed. B. Goddeeris, and I. Morrison. CRC Press. pp. 229-240.

Denis, M., Thiry, E., Pastoret, P.P., Splitter, G. and Babiuk, L.A. 1994. Infectious bovine rhinotracheitis (bovine herpesvirus-1): Cytotoxic T cells and NK cells. In: Cell Mediated Immunity in Ruminants. Ed. B. Goddeeris and I. Morrison. CRC Press. pp. 157-172.

Mittal, S.K., McDermott, M.R., Johnson, D.C., Prevec, L., Zamb, T., Babiuk, L.A. and Graham,

Apr-05

F.L. (1993). Adenovirus based expression vectors for recombinant vaccines. In Recombinant and Synthetic Vaccines. G.P. Talwar *et al.* (Eds.), Narosa Publishing House, New Delhi, India, pp. 362-366.

van Drunen-Littel-van den Hurk, S., Tikoo, S., Liang, X. and Babiuk, L.A. 1993. Bovine herpesvirus vaccines. In: Immunology and Cell Biology. 71: 405-420.

Campos, M., Hughes, H., Godson, D., Babiuk, L.A. and Sordillo, L. 1993. The role of biological response modifiers in disease control. J. Dairy Science. 76: 2407-2417.

Potter, A.A. and Babiuk, L.A. 1993. Conventional and Biotechnological Engineered Bovine Vaccines. In Progress in Vaccinology. Vol. 4, Eds. R. Pandey, S. Hoglund and G. Prasad, Springer-Verlag New York Inc. pp 240-287.

Campos, M. and Babiuk, L.A. 1992. Immunotherapy in veterinary infectious disease. In: Cytokines and Resistance in Non-viral Infections. Ed. G. Sonnenfeld, C. Czarniecki, C. Nacy, G.I. Byrne and M. Degre. The Biomedical Press, Augusta, GA. 177-190.

Campos, M., Godson, D.L., Hughes, H.P.A., Sordillo, L.M. and Babiuk, L.A. 1992. Interferon research in Veterinary Medicine. In: Interferon: Principles and Medical Applications. Ed. S. Baron, D.H. Coppenhaver, R. Dianzani, W.R. Fleischmann, Jr., T.K. Hughes, Jr., G.R. Klimpel, D.W. Niesel, G.J. Stanton, and S.K. Trying (eds). The University of Texas Medical Branch at Galveston, Department of Microbiology, Galveston, Texas USA. pp. 589-600.

Babiuk, L.A. and Campos, M. 1992. Respiratory vaccines for farm animals. In: Veterinary Vaccines. Ed. A.R. Peters, Butterworth, U.K. pp. 83-115.

Redmond, M.J., Sabara, M.I. and Babiuk, L.A. 1992. Rotavirus Vaccinology - Current Approaches in Rotavirus Vaccine Development. In: Control of Viral Diseases. Ed. E. Kurstak, Marcel Dekker Inc. pp. 387-404.

Hughes, H.P. and Babiuk, L.A. 1992. The adjuvant potential of cytokines. Biotherapeutics. 3: 101-117.

Campos, M., Rossi-Campos, A. and Babiuk, L.A. 1991. The biology and application of cytokines. Ag Biotech News and Information. 2: 243-248.

Redmond, M.J. and Babiuk, L.A. 1991. The application of biotechnology to animal vaccine development. The Genetic Engineer & Biotechnologist. 11: 14-21.

Babiuk, L.A., Sordillo, L.M., Campos, M., Hughes, H.P.A., Rossi-Campos, A. and Harland, R. 1991. Application of interferons in the control of infectious diseases of cattle. J. Dairy Science. 74: 4385-4398

Ijaz, M.K., Dent, D.L. and Babiuk, L.A. 1990. Modulation of the *in vivo* anti-rotavirus humoral immune response by neuroendocrines and neuropeptides. In Advances in Mucosal Immunology.

Apr-05

Eds. T.T. MacDonald, S.J. Challacombe, P.W. Bland, C.R. Stokes, R.V. Heatley and A.M. Mowat. Kluwer Academic Publishers, London. pp. 255-261.

Hughes, H.P.A., Campos, M., Godson, D. and Babiuk, L.A. 1990. Immunity to virus infections. Current Opinions in Infectious Diseases. 3: 343-350.

Babiuk, L.A., Campos, M. and Rossi-Campos, A. 1990. Vaccines for improving animal production. Ag. Biotech News & Information. 2: 647-652.

Parker, M.D., Yoo, D., Fitzpatrick D.R., Cox, G.S. and Babiuk, L.A. 1990. The hemagglutinin of bovine coronavirus exhibits significant similarity to the HE of type C influenza virus. In Coronaviruses and their diseases. Ed. Cavagh, D. and Brown, K. Adv. Exp. Med. Biol., Plenum, N.Y., 276: 297-303.

Kurstak, E., Marusyk, R., Salmi, A., Babiuk, L., Kurstak, C and van Regenmortel, M. 1989. Detection of Viral Antigens and Antibodies: Enzyme Immunoassays. In Sub-cellular Biochemistry. Vol. 15. Virally Infected Cells. Ed. J.R. Harris. Plenum Press, New York. pp. 1-37.

Babiuk, L.A. 1989. Viral induced gastroenteritis in ruminants. In: Viral Infections of Ruminants. Ed. Z. Dinter and B. Morein, Elsevier Science Publishers, Amsterdam. pp. 555-566.

Lawman, M.J.P., Griebel, P., Campos, M., Bielefeldt Ohmann, H. and Babiuk, L.A. 1989. Recombinant lymphokines and their potential therapeutic value in veterinary medicine. I. Comprehensive Biotechnology V. Ed. L.A. Babiuk, and J. Philip. Pergamon Press. pp. 63-106.

Babiuk, L.A., Lawman, M.J.P. and Griebel, P. 1989. Immunosuppression by bovine herpesvirus-1 and other selected herpesviruses. Viral Induced Immunosuppression. Ed. Friedman, H., Specter, S. and Bendinelli. pp. 141-157.

Babiuk, L.A., Lawman, M.J.P. and Bielefeldt Ohmann, H. 1988. Viral bacterial synergistic interactions in respiratory disease. Adv. in Virus Research 35: 219-249.

Babiuk, L.A. 1988. Biotechnology applied in animal vaccine development and production. In: Biotechnology Research and Applications. Ed. J. Gavora, D.F. Gerson, J. Luong, A. Storer and J.H. Woodler. Elsevier, London, pp. 12-23.

Babiuk, L.A., Lawman, M.J.P., Gifford, G.A. and Ohmann, H.B. 1987. Interferon: An application of recombinant DNA technology. In: New Perspectives in Veterinary Pharmacology and Therapeutics. Ed. J.A. Allert and H.R. Adams. Univ. of Missouri Press, Columbia. pp. 236-254.

Whetstone, C.A., Babiuk, L.A. and van Drunen Littel-van den Hurk, S. 1987. The production and characterization of anti-idiotypic antibodies directed against a monoclonal anti-bovine herpesvirus-1 antibody. In: Anti-Idiotype Molecules Mimicry. Ed. Linthicum and Farid. Springer-Verlag, N.Y. pp. 311-317.

Apr-05

Babiuk, L.A., Sabara, M. and Frenchick, P. 1987. Perspectives for the treatment of gastrointestinal tract virus infections. In: Clinical Use of Antiviral Drugs. Ed. E. DeClercq. Martinus Nijhoff, Boston. pp. 341-360.

Bielefeldt Ohmann, H., Lawman, H. and Babiuk, L.A. 1987 Bovine interferon: Its biology and application in veterinary medicine. A brief review. *Antiviral Research* 7: 182-210.

Frenchick, P., Sabara, M.I., Ijaz, M.K and Babiuk, L.A. 1987. Immune responses to synthetic peptide vaccines of veterinary importance. *Applied Virology Research: New vaccines and chemotherapy*. Ed. Kurstak, E., Marusyk, R.G., Murphy, F.A. and van Regenmortel, M.H.V. Plenum Publish. Co. N.Y. pp. 141-151.

Bielefeldt Ohmann, H., Lawman, M.J.P. and Babiuk, L.A. 1987. Bovine interferon: Its biology and application in Veterinary Medicine. A brief review. *Antiviral Research*. 7: 187-210.

Babiuk, L.A., Lawman, M.J.P. and Gifford, G.A. 1986. Bovine respiratory disease: Pathogenesis and control by interferon. *Seminars in Bovine Immunology*. pp. 12-23.

Deregt, D., Sabara, M. and Babiuk, L.A. 1986. Monoclonal antibodies to two bovine coronavirus glycoprotein neutral virus infectivity. In: *Coronaviruses: Advances in Experimental Med. and Biol.* Vol. 218. 473. Ed. Micheal M.C. Lai and Stephen A. Stohlmeyer. Plenum Press, New York.

Friend, S.C.E., Schiefer, H.B. and Babiuk, L.A. 1985. A summary of the effects of T-2 toxin on acute herpes simplex virus type 1 infection in mice. In: *Trichothecenes and Other Mycotoxins*. Ed. J. Lacey, J. Wiley & Sons, New York. p. 441-446.

Bielefeldt Ohmann, H. and Babiuk, L.A. 1985. Viral infections in domestic animals as models for studies of viral immunology and pathogenesis. A Review. *J. Gen. Virol.* 67: 1-25.

Babiuk, L.A. and Bielefeldt Ohmann, H. 1985. Bovine herpesvirus-1 in cattle as a model for viral induced immunosuppression. In: *Viral Mechanisms of Immunosuppression*. Ed. N. Gilmore, Alan R. Liss, New York. p. 99-114.

Babiuk, L.A. 1985. The use of vaccines for controlling viral diseases of animals. In: *Immunochemistry of viruses the basis for serodiagnosis and vaccine*. Ed. van Regenmortel, M.H.V. and Neurath, A.R. pp. 189-211.

Babiuk, L.A. and Bielefeldt-Ohmann, H. 1984. Effect of levamisole and bovine interferon alpha on bovine immune responses and susceptibility to bovine herpesvirus-1. In: *Chemical Regulation of Immunity in Veterinary Medicine*. Ed. M. Kende, J. Gainer and M. Chirigos. Alan. R. Liss Inc. N.Y. pp. 433-422.

Babiuk, L.A., Sabara, M.I. and Hudson, G.R. 1984. Rotavirus and Coronavirus infections in animals. In: *Prog. Vet. Microbiol.* Ed. R. Pandey, pp. 80-120.

Apr-05

Flewett, T.H. and Babiuk, L.A. 1984. Prospects for rotavirus vaccines in man and animals. In: Control of Viruses Diseases. Ed. Kurstak, E. and Marusyk, R. pp. 57-65.

Babiuk, L.A. 1984. Viral-bacterial synergistic interactions in respiratory infections. In: Applied Virol. Ed. Kurstak, E. Academic Press. pp. 431-443.

Babiuk, L.A. 1984. Gastroenteritis infections in animals. In: Applied Virol. Ed. Kurstak, E., Academic Press. p. 349-363.

Babiuk, L.A. and Acres, S.D. 1984. Experimental models for bovine respiratory diseases. In: Bovine Respiratory Disease: A Symposium. Texas A&M University Press. Ed. R.W. Loan. pp. 287-325.

Sabara, M.I. and Babiuk, L.A. 1983. The significance of rotavirus electrophoretic heterogeneity within individual bovine rotavirus isolates. In: Double-Stranded RNA Viruses. Ed. R. Compans and D.H.L. Bishop. Elseviers Science Publ. Co. Amsterdam. pp. 95-106.

Misra, V. and Babiuk, L.A. 1980. Possible Mechanisms of Rotavirus Persistence. In: Animal Virology. Academic Press. p. 727-738.

Rouse, B.T. and Babiuk, L.A. 1979. Viral Induced Immunopathology. In: Advances in Veterinary Science, 23, 103-136.

Babiuk, L.A. 1972. Studies on the Transformation of Mammalian Cells by Polyomavirus. Ph.D. Thesis. University of British Columbia.

Babiuk, L.A. 1969. Bacteria of Grassland Soil. M.Sc. Thesis, University of Saskatchewan.

Babiuk, L.A. 1967. Effect of Potash Salt Dust Contamination on Microbial Activity. B.S.A. Thesis, University of Saskatchewan.

PAPERS IN REFEREED JOURNALS

Wilson, H.L., Kaushik, R.S., Begg, A.A., Babiuk, L.A., Potter, A.A., Griebel, P., and Aich, P. 2005. Effects of bovine rotavirus on cell cycle gene expression in calf intestine. In prep.

Wilson, H.L., Kaushik, R.S., Begg, A.A., Jalal, S., Mirakhur, K., van den Hurk, J., van Moorlehem, E., Hokamp, K., Roche, F., Brinkman, F., Potter, A., Babiuk, L.A., Griebel, P., and Aich, P. 2005. Comparative micro-array studies on bovine enteric infection by rotavirus and coronavirus. In prep

Sampathkumar, B., Carrillo, C., and Willson, P., Nash, J., Potter, A., Babiuk, L.A., and Allan, B. 2005. Comparative proteomic and genomic analysis of *Campylobacter jejuni* NCTC 11168 grown on agar and in broth. In prep.

Czuprinski, C., Song, X.M., Rawlyk, N., Aich, P., Wilson, H.L., Abrahamsen, M.S., Hancock, R.E.W., Babiuk, L.A., and Potter, A. 2005. Transcriptinal profiling of endothelial cells and polymorphonuclear leukocytes following exposure to *H. somnus*. In prep.

Kaushik, R.S., Begg, A.A., Lancto, C., Abrahamsen, M.S., Wilson, H.L., Potter, A., Babiuk,

Apr-05

L.A., Aich, P., and Griebel, P. 2005. Establishment and characterization of primary cultures of bovine fetal ileal and jejunal epithelial cells and jejunal fibroblasts. 2005. In prep.

Wilson, H.L., Popowych, Y., Jalal, S., Bakare, A., Manuja, A., Babiuk, L.A., Potter, A.A., Abrahamsen, M.S., Aich, P., and Griebel, P. 2005. CpG 207 ODN triggers procoagulant activation in isolated bovine monocytes. In prep.

Zakhartchouk, A.N., Liu, Q., Petric, M., and Babiuk, L.A. 2005. A combination of DNA and whole killed virus vaccines against SARS-coronavirus increases their abilities to induce immune responses in mice. Submitted

Liang, R., van den Hurk, J., Zheng, C., Pontarollo, R., Babiuk, L.A., and van Drunen Littel-van den Hurk, S. 2005. Immunization with plasmid DNA encoding a truncated form of bovine viral diarrhea virus E2 fused to a heterologous signal sequence elicits strong humoral and cellular immune responses. Submitted

Vordemmeier, H.M., Pontarollo, R., Karvonen, B., Cockle, P., Hecker, R., Smith, M., Babiuk, L.A., Hewinson, G., and van Drunen Littel-van den Hurk, S. 2005. Synthetic peptide vaccination in cattle: Induction of strong cellular immune responses against peptides derived from the *Mycobacterium bovis* antigen Rv3019c. Submitted

Huang, Y., Babiuk, L.A., and van Drunen Little-van den Hurk, S. 2005. The cell-mediated immune response induced by a plasmid encoding bovine herpesvirus-1 glycoprotein gB is enhanced by co-delivery of plasmid encoding IL-12 when infected intramuscularly or delivered epidermally by gene gun. Submitted

Huang, Y., Atah-Poku, S., Babiuk, L.A., and van Drunen Little-van den Hurk, S. 2005. Identification of cytotoxic T lymphocyte epitopes in bovine herpesvirus type I glycoprotein B. Submitted

Huang, Y., Babiuk, L.A., and van Drunen Little-van den Hurk, S. 2005. Co-immunization with plasmid encoding bovine interleukin-12 enhances protection against BHV-1 infection in cattle. Submitted

Zheng, C., Brownlie, R., Huang, Y., Babiuk, L.A., and van Drunen Littel-van den Hurk, S. 2005. Intercellular trafficking of the major tegument protein VP22 of bovine herpesvirus-1 and its application to improve a DNA vaccine. Submitted

Turaya, N., Masoud, G., Ikuri, A.M., Lapner, M., Rashmi, K., De Repentigny, Y., Gomis, S., Babiuk, L.A., Giulivi, A., Soare, C., Diaz-Mitoma, F. 2005. Liver histopathology in a transgenic mouse model expressing genotype 1b hepatitis C virus core and envelope proteins 1 and 2. Submitted

Huang, Y., Babiuk, L.A., van Drunen Little-van den Hurk, S. 2005. Immunization with a bovine herpevirus glycoprotein B DNA vaccine induces cytotoxic T lymphocyte responses in mice and cattle. Immunology. Submitted

Mena, A., Popowych, Y., Mookherjee, N., Nichani, A., van Kessel, A., Godson, D., Hecker, R., Babiuk, L.A., and Griebel, P. 2005. Identification of CpG oligodeoxynucleotide responsive cells within a bovine blood leukocyte population. Submitted

Mena, A., Popowych, Y., Mookherjee, N., Nichani, A., van Kessel, A., Kaushik, R., Hecker, R., Babiuk, L.A., and Griebel, P. 2005. Effects of CpG oligodeoxynucleotides on different bovine immune compartments. Submitted

Manoj, S., Babiuk, L.A., and van Drunen Little-van den Hurk, S. 2005. Expression of a truncated form of bovine herpesvirus-1 glycoprotein D and the amino terminal subunit of glycoprotein B from a dicistronic plasmid results in reduction of gBb-specific humoral and

Apr-05

cellular responses. Submitted.

Dar, A., Mumtaz, S., Vishwanathan, S., Manoj, A., Griebel, P., Tikoo, S., Potter, A.A., Kapur, V., and Babiuk, L.A. 2005. Transcriptional analysis of avian embryonic tissues following infection with avian infectious bronchitis virus. *Virus Research*. In press.

Wedlock, D.N., Skinner, M.A., de Lisle, G.W., Vordermeier, H.M., Hewinson, R.G., Hecker, R., van Drunen Little-van den Hurk, S., Babiuk, L.A., and Buddle, B.M. 2005. Vaccination of cattle with *Mycobacterium bovis* culture filtrate proteins and CpG oligodeoxynucleotides induces protection against bovine tuberculosis. *Infection & Immunity*. In press.

Aich, P., Wilson, H., Rawiye, N., Jalal, S., Kaushik, R., Bege, A., Potter, A.A., Babiuk, L.A., Abrahamse, M.S., and Griebel, P. 2005. Micro-array analysis of gene expression following preparation of sterile intestinal "loops" in calves. *Can. Journal of Animal Sci.* In press.

Wilson, H.E., Aich, P., Jalal, S., Kaushik, R., Hodson, P., Potter, A., Babiuk, L.A., and Griebel, P. 2005. Molecular analysis of disease pathogenesis: Application of bovine micro-arrays. *Vet. Immunol and Immunopath.* In press.

Manoj, S., Babiuk, L.A., Karvonen, B., and van Drunen Little-van den Hurk, S. 2005. Protective immune responses induced by a DNA vaccine encoding a truncated form of glycoprotein D linked to the amino terminal subunit of glycoprotein B of bovine herpesvirus-1. *Immunol*. In press.

Rymerson, R.T., Babiuk, L.A., Vanderbeld, B., and Brandle, J.E. 2005. The expression of the capsid of VP2 from porcine parvovirus in transgenic tobacco as a potential oral vaccine for swine. *Molecular Breeding*. In press.

Xiaoxin, L., Babiuk, L.A., and Tikoo, S. 2005. Transcription analysis of the early region 4 and characterization of E4 egion encoded proteins of porcine adenovirus type 3. *Intervirology*. In press.

Zheng, C., Babiuk, L.A., and van Drunen Little van den Hurk, S. 2005. Bovine herpesvirus-1 VP22 enhances the efficacy of a DNA vaccine in cattle. *J. Virol.* 79: 1948-1953.

Oumouna, M., Mapleton, J. W., Karvonen, B. C., Babiuk, L. A., van Drunen Littel-van den Hurk, S. 2005. Formulation with CpG Oligodeoxynucleotides Prevents Induction of Pulmonary Immunopathology following Priming with Formalin-Inactivated or Commercial Killed Bovine Respiratory Syncytial Virus Vaccine. *J Virol.* 79: 2024-32.

Zakhartchouk, A. N., Viswanathan, S., Mahony, J. B., Gauldie, J., Babiuk, L. A. 2005. Severe acute respiratory syndrome coronavirus nucleocapsid protein expressed by an adenovirus vector is phosphorylated and immunogenic in mice. *J Gen Virol.* 86: 211-5.

Xiaoxin, L., Babiuk, L.A., and Tikoo, S.K. 2004. Analysis of early region 4 of porcine adenovirus type 3A. *Virus Research*. 104: 181-190.

Babiuk, S., Skowronski, D. M., De Serres, G., HayGlass, K., Brunham, R. C., Babiuk, L. 2004. Aggregate content influences the Th1/Th2 immune response to influenza vaccine: evidence from a mouse model. *J Med Virol.* 72: 138-42.

Wigdorovitz, A., Mozgovoj, M., Santos, M. J., Parreno, V., Gomez, C., Perez-Filgueira, D.M., Trono, K.G., Rios, R.D., Franzone, P.M., Fernandez, F., Carrillo, C., Babiuk, L. A., Escrivano, J. M., Borca, M. V. 2004. Protective lactogenic immunity conferred by an edible peptide vaccine to bovine rotavirus produced in transgenic plants. *J Gen Virol.* 85: 1825-32.

Kulshreshtha, V., Babiuk, L. A., Tikoo, S. K. 2004. Role of bovine adenovirus-3 33K protein in

Apr-05

viral replication. *Virology*. 323: 59-69.

Li, X., Babiuk, L.A., and Tikoo, S.K. 2004. Analysis of early region 4 of porcine adenovirus type 3. *Virus Res*. 106: 181-190.

Gomis, S., Babiuk, L.A., Allan, B., Willson, P., Waters, E., Ambrose, N., Hecker, R., Potter, A. 2004. Protection of neonatal chicks against a lethal challenge of Escherichia coli using DNA containing cytosine-phosphodiester-guanine motifs. *Avian Diseases*. 48: 813-822..

Mutwiri, G.K., Nichani, A.K., Babiuk, S., Hecker, R., and Babiuk, L.A. 2004. Strategies for enhancing the biologic activity of CpG oligodeoxynucleotides. *Journal of Controlled Release*. 97: 1-17.

Perez-Filgueira, D.M., Morzgovoj, M., Wigdorovitz, A., Dus Santos, M.J., Parreno, V., Trono, K., Fernandez, F.M., Morris, T.J., Babiuk, L.A., and Borca, M.V. 2004. Passive protection to bovine rotavirus (BRV) infection induced by a BRV VP8 produced in plants using a TMV-based vector. *Arch. Virol*. 149; 2337-2348

Yu, H., Babiuk, L.A., and van Drunen Little-van den Hurk, S. 2004. Priming with CpG-enriched plasmid encoding hepatitis C virus NS3 followed by boosting with NS3 protein formulated with CpG oligodeoxynucleotides and Quil A induces strong cellular and humoral immune responses. *J. Gen. Virology*. 85: 1533-1543.

Zheng, C., Brownlie, R., Babiuk, L.A., van Drunen Little-van den Hurk, S. 2004. Characterization of nuclear localization and export signals on the major tegument protein VP8 of bovine herpesvirus-1. *Virology*. 324: 327-339.

Manoj, S., Griebel, P., Babiuk, L.A., Karvonen, B., and van Drunen Little-van den Hurk, S. 2004. Modulation of immune responses to bovine herpesvirus-1 in cattle by immunization with a DNA vaccine encoding glycoprotein D as a fusion protein with bovine CD154. *Immunology*. 112: 328-338.

Carrillo, C., Taboada, E., Nash, J.H.E., Lanthier, P., Kelly, J., Lau, P., Verhulp, R., Mykytczuk, O., Sy, J., Findlay, W.A., Amoako, K., Gomis, S., Willson, P., Austin, J.W., Logan, S., Aubry, A., Potter, A., Babiuk, L.A., Young, M., Allan, B., and Szymanski, C. 2004. Genome-wide expression analyses of *Campylobacter jejuni* NCTC11168 reveals co-ordinate regulation of motility and virulence by *flha*. *J. Biological Chemistry*. 279: 20327-20338.

Babiuk, S., Mookherjee, N., Pontarollo, R., Griebel, P., van Drunen Little-van den Hurk, S., Hecker, R., and Babiuk, L.A. 2004. TLR-9- mice elicit similar immune responses to DNA immunization compared to normal TLR-9+ mice. *Immunology*. 113: 114-120.

Roche F.M., Hokamp, K., Acab, M., Babiuk, L., Hancock, R.E.W., and Brinkman, F.S.L. ProbeLynx: A tool for updating the association of microarray probes to genes. *Nucleic Acids Research*. 32: W471-474.

Hokamp, K., Roche F.M., Acab, M., Rousseau, M., Kuo, B., Goode, D., Aeschliman, D., Bryan, J., Babiuk, L.A., Hancock, R.L.W., F.S.L. Brinkman. ArrayPipe: a flexible processing pipeline for microarray data. *Nucleic Acids Research*. 32; W457-459.

Zhang, Y., Li, T., Fu, L., Yu, C., Li, Y., Xu, X., Wang, Y., Ning, H., Zhang, S., Chen, W., Babiuk, L.A., and Chang., Z. 2004. Silencing SARS-CoV spike protein expressin in cultured cells y RNA interfence. *FEBS Letters* 560: 141-146.

Nichani, A., Kaushik, R.S., Mena, A., Popowych, Y., Dent, D., Townsend, H., Mutwiri, G., Hecker, R., Babiuk, L.A., and Griebel, P.J. 2004. CpG oligonucleotide induction of antiviral effector molecules in sheep. *Cellular Immunology*. 227: 24-37.

Babiuk, S., Baca-Estrada, M.E., Middleton, D., Hecker, R., Babiuk, L.A., and Foldvari, M.

Apr-05

2004. Biphasic lipid vesicles (Biphasix™) enhance the adjuvanticity of CpG oligonucleotides following systemic and mucosal administration. *Current Drug Delivery* 1: 9-15.

Babiuk, S., Baca-Estrada, M.E., Foldvari, M., Middleton, D.M., Storms, M., Rabussay, D., Widera, G., and Babiuk, L.A. 2004. Increased gene expression and cellular infiltration caused by electroporation are both important for improving the efficacy of DNA vaccines. *J. Biotechnology* 110: 1-10.

Nichani, A.K., Mena, A., Popowych, Y., Mutwiri, G., Dent, D., Hecker, R., Babiuk, L.A., and Griebel P.G. 2004. *In vivo* immunostimulatory effects of CpG ODN in cattle and sheep. *Veterinary Immunology and Immunopathology*. 98: 17-29.

Ioannou, X.P., Gomis, S.M., Karvonen, B., Thrush, T., Hecker, R., Babiuk, L.A., and van Drunen Littel-van den Hurk, S. 2004. CpG Oligodeoxynucleotides are Safe and Effective Adjuvants for Rabbits. *Vaccine* 21: 4368-4372.

Moshynskyy, I., Jiang, M., Fontaine, M.C., Perez-Casal, J., Babiuk, L.A., and Potter, A.A. 2003. Characterization of a bovine lactoferrin binding protein of *Streptococcus uberis*. *Micro Pathog* 35: 203-215.

Alcon, V.L., Foldvari, M., Snider, M., Willson, P., Gomis, S., Hecker, R., Babiuk, L.A., and Baca-Estrada, M.E. 2003. Induction of protective immunity in pigs after immunization with CpG oligodeoxynucleotides formulated in a lipid-based delivery system (Biphasix™). *Vaccine* 21: 1811-1814.

Mena, A., Nichani, A., Popowych, Y., Godson, D.L., Dent, D., Townsend, H., Mutwiri, G., Hecker, R., Babiuk, L.A., and Griebel, P. 2003. Innate immune responses induced by CpG oligodeoxynucleotides stimulation of ovine PBMC. *Immunology* 110: 1-8.

Mena, A., Nichani, A., Popowych, Y., Ioannou, X., Godson, D.L., Mutwiri, G., Hecker, R., Babiuk, L.A., and Griebel, P. 2003. Bovine and ovine blood mononuclear leukocytes differ markedly in innate immune responses induced by Class A and Class B CpG oligonucleotides. *Oligonucleotides* 13: 245-260.

Manoj, S., Griebel, P., Babiuk, L., and van Drunen Littel-van den Hurk, S. 2003. Targetting with Bovine CD154 Enhances Humoral Immune Responses Induced by a DNA Vaccine. *J. Immunol.* 170: 989-996.

Ioannou, X.P., Griebel, P., Mena, A., Godson, D.L., Mutwiri, G.K., Gomis, S.M., Hecker, R., Babiuk, L.A., and van Drunen Littel-van den Hurk, S. 2003. Safety of CpG ODN in veterinary species. 2003. *Antisense and Nucleic Acid Drug Development*. 13: 157-167.

Nichani, A., Kaushik, R.S., Mena, A., Popowych, Y., Dent, D., Townsend, H., Mutwiri, G., Hecker, R., Babiuk, L.A., and Griebel, P. 2003. Innate immune responses induced by CpG oligodeoxynucleotide stimulation of ovine peripheral blood mononuclear cells. *Immunol.* 110: 250-257.

Babiuk, L.A., Pontarollo, R., Babiuk, S., and Loehr, B., van Drunen Little-van den Hurk, S. 2003. Induction of immune responses by DNA vaccines in large animals. *Vaccine* 21: 649-658.

Mutwiri, G., Pontarollo, R., Babiuk, S., Griebel, P., van Drunen Littel-van den Hurk, S., Mena, A., Tsang, C., Alcon, V., Nichani, A., Ioannou, X., Gomis, S., Townsend, T., Hecker, R., Potter, A., and Babiuk, L.A. 2003. Biological Activity of Immunostimulatory CpG DNA Motifs in Domestic Animals. *Vet. Immunol. Immunopath.* 91: 89-103.

Gomis, S., Babiuk, L.A., Godson, D.L., Allan, B., Thrush, T., Townsend, H., Willson, P., Waters, E., Hecker, R., and Potter, A. 2003. Protection Against *Escherichia coli*

Apr-05

Infections of Chickens by DNA Containing CpG Motifs. *Infect. and Immun.* 71: 857-863.

Babiuk, S., M. E. Baca-Estrada, M. Foldvari, L. Baizer, R. Stout, M. Storms, D. Rabussay, G. Widera, and L. Babiuk. 2003. Needle-free topical electroporation improves gene expression from plasmids administered in porcine skin. *Mol Ther* 8:992-8.

Stocki, S.L., Babiuk, L.A., Rawlyk, N.A., Potter, A.A., and Allan, B.J. 2003. Identification of Genomic Differences Between *E. coli* Strains Pathogenic for Poultry and *E. coli* K-12 MG1655 using Suppression Subtractive Hybridization Analysis. *Microbial Pathogenesis* 33: 289-298.

Manoj, S., L. A. Babiuk, and S. van Drunen Littel-van den Hurk. 2003. Immunization with a dicistronic plasmid expressing a truncated form of bovine herpesvirus-1 glycoprotein D and the amino-terminal subunit of glycoprotein B results in reduced gB-specific immune responses. *Virology* 313:296-307.

Reddy, P.S., Idamakanti, N., Zakhartchouk, A.N., Babiuk, L.A., Mehtali, M., and Tikoo, S.K. 2003. Foreign gene expression and packaging capacity of E3 deleted bovine adenovirus-3. *Virus Research*.

Baca-Estrada, M., Ewen, C., Mahony, D., Babiuk, L.A., Wilkie, D., and Foldvari, M. 2003. The haemopoietic growth factor, Flt3L, alters the immune response induced by transcutaneous immunization. *Immunology* 107: 69-76.

Kim, B., Bowersock, T., Griebel, P., Kidane, A., Babiuk, L.A., Sanchez, M., Attah-Poku, S., Kaushik, R., and Mutwiri, G. 2002. Mucosal immune responses following oral immunization with rotavirus antigens encapsulated in alginate microspheres. *J. of Controlled Release*. 85: 191-202.

Babiuk, L. A. 2002. Vaccination: a management tool in veterinary medicine. *Vet J* 164:188-201.

Pontarollo, R., Babiuk, L.A., Hecker, R., and van Drunen Littel-van den Hurk, S. 2002. Augmentation of Cellular Immune Responses to Bovine Herpesvirus-1 Glycoprotein D by Vaccination with CpG-Enhanced Plasmid Vectors. *J. Gen. Virology*. 83: 2973-2984.

Babiuk, L.A. 2002. 3rd World Congress on Vaccines and Immunization. *Expert Opin Biol Ther* 2: 665-669.

Babiuk, L.A., S.L. Babiuk and M.E. Baca-Estrada. 2002. Novel vaccine strategies. *Adv Virus Res* 58: 29-80.

Babiuk, S., Baca-Estrada, M., Foldvari, M., Storms, M., and Rabussay, D., Widera, G., and Babiuk, L.A. 2002. Electroporation improves the efficacy of DNA vaccines in large animals. *Vaccine*. 20: 3399-3408.

Ioannou, X.P., Babiuk, L.A., and van Drunen Little-van den Hurk, S. 2002. The immunogenicity and protective efficacy of bovine herpesvirus-1 glycoprotein plus Emulsigen are increased by formulation with CpG oligodeoxynucleotides. *J. Virol.* 76: 9002-9010.

Liu, Q., Wang, L., Willson, P., O'Connor, B., Keenliside, J., Chirino-Trejo, M., Melendez, R., and Babiuk, L.A. 2002. Seroprevalence of Porcine Circovirus Type 2 in Swine Populations in Canada and Costa Rica. *Can. Vet. Res.* 66: 225-231.

Pontarollo, R., Rankin, R., Babiuk, L.A., Godson, D., Griebel, P., Hecker, R., Krieg, A., and van Drunen Little-van den Hurk, S. 2002. Monocytes are required for optimum *in vitro* stimulation of bovine peripheral blood mononuclear cells by non-methylated CpG-motifs. *Vet. Immunol. Immunopath.* 84: 43-59.

Mena, A., Ioannou, X.P., van Kessel, A., van Drunen Little-van den Hurk, S., Popowich, Y.,

Apr-05

Babiuk, L.A., and Godson, D. 2002. Th1/Th2 Biasing Effects of Vaccination in Cattle as Determined by Real-Time PCR. *J. Immunol. Methods* 263: 11-21.

Ioannou, X.P., Gomis, S., Karvonen, B., Hecker, R., Babiuk, L.A., and Drunen Little van den Hurk, S. 2002. CpG containing oligonucleotides in combination with conventional adjuvants enhance the magnitude and change the bias of the immune responses to a herpesvirus glycoprotein. *Vaccine* 21: 127-137.

Mutwiri, G., Bowersock, T., Kidane, A., Sanchez, M., Gerdts, V., Babiuk, L.A., Griebel, P. 2002. Induction of mucosal immune responses following enteric immunization with antigen delivered in alginate microspheres. *Vet. Immun. and Immunopath.* 87: 269-276.

Rankin, R., Pontarollo, R., Gomis, S., Karvonen, B., Willson, P., Babiuk, L.A., Hecker, R., Loehr, B., Godson, D., and van Drunen Little-van den Hurk, S. 2002. CpG containing oligonucleotides augment and switch the immune response of cattle to bovine herpesvirus glycoprotein D. *Vaccine* 20: 3014-3022.

Weingartl, H.M., Sabara, M., Pasick, J., van Moorlehem, E., and Babiuk, L.A. 2002. Continuous porcine cell lines developed from alveolar macrophages. Partial characterization and virus susceptibility. *J. Virol. Methods*. 104: 203-216.

Uwiera, R.R., Gerdts, V., Pontarollo, R., Babiuk, L.A., and Griebel, P. 2002. Plasmid DNA induces increased lymphocyte trafficking: A specific role for CpG motifs. *Cellular Immunology*. 214: 155-164.

Gerdts, V., Snider, M., Brownlie, R., Babiuk, L.A., and Griebel, P.J. 2002. Oral DNA vaccination *in utero* induces mucosal immunity and immune memory in the neonate. *J. Immunology*. 168: 1877-1885.

Zhou, Y., Reddy, P.S., Babiuk, L.A., and Tikoo, S.K. 2001. Bovine adenovirus type 3 E1B^{small} protein is essential for growth in bovine fibroblasts. *Virology* 288: 264-274.

Loehr, B.I., Pontarollo, R., Rankin, R., Latimer, L., Willson, P., Babiuk, L.A., and van Drunen Little-van den Hurk, S. 2001. Priming by DNA immunization augments T-cell responses induced by modified live bovine herpesvirus vaccine. *J. Gen. Virol.* 82: 3035-3043.

van Drunen Little-van den Hurk, S., Myers, D., Doig, P.A., Karvonen, B., Habermehl, M., Babiuk, L.A., Jelinski, M., van Donkersgoed, Scheslinger, K., and Rinehart, C. 2001. Identification of a mutant bovine herpesvirus-1 (BHV-1) in post-arrival outbreaks of IBR in feedlot calves and protection with conventional vaccination. *The Canadian Journal of Veterinary Research*. 65: 81-88.

Baxi, M.K., Robertson, J., Babiuk, L.A., and Tikoo, S.K. 2001. Mutational analysis of early region 4 of bovine adenovirus type 3. *Virology*. 290: 153-163.

Loehr, B.I., Rankin, R., Pontarollo, R., King, T., Willson, P., Babiuk, L.A., and van Drunen Little-van den Hurk, S. 2001. Suppository-mediated DNA immunization induces mucosal immunity against herpesvirus infection in cattle. *Virology*. 289: 327-333.

Rankin, R., Pontarollo, R., Ioannou, X., Krieg, A.M., Hecker, R., Babiuk, L.A., and van Drunen Little-van den Hurk, S. 2001. CpG motif identification for veterinary and lab species demonstrates that sequence recognition is highly conserved. *Antisense and Nucleic Acid Drug Development*. 11: 333-340.

van Drunen Little van den Hurk, S., Loehr, B.I., and Babiuk, L.A. 2001. Immunization of livestock with DNA vaccines: Current studies and future prospects. *Vaccine*. 19: 2474-2479.

Gerdts, V., Uwiera, R., Mutwiri, G., Wilson, D.J., Bowerstock, T., Kidane, A., Babiuk, L.A., and Griebel, P. 2001. Multiple intestinal "loops" provide an *in vivo* model to analyze mucosal

Apr-05

immune responses. *J. Immunol. Methods.* 256: 19-33.

Liu, Q., Willson, P., Attah-Poku, S., and Babiuk, L.A. 2001. Bacterial expression of an immunologically reactive PCV-2 ORF-2 fusion protein. *Protein expression and Purification.* 21: 115-120.

Uwiera, R.R., Rankin, R., Pontarollo, R., van Drunen Littel-van den Hurk, S., Middleton, D., Babiuk, L.A., and Griebel, P.J. 2001. Effects of intradermally-administered plasmid DNA on ovine popliteal lymph node morphology. *Anatomical Record.* 262: 186-192.

Suradhat, S., Braun, R.P., Lewis, P.J., Babiuk, L.A., van Drunen Littel-van den Hurk, S., Baca-Estrada, M.E., and Griebel, P.J. 2001. Fusion of C3d molecule with bovine rotavirus VP7 or bovine herpesvirus type 1 glycoprotein D inhibits immune responses following DNA immunization. *Vet. Immunology and Immunopathology* 83; 79-92.

Hammond, J.M., Jansen, E.S., Morrissey, C.J., van der Heide, B., Goff, W.V., Williamson, M.W., Hooper, P., Tikoo, S.K., Babiuk, L.A., and Johnson, M.A. 2001. Vaccination of pigs with a adenovirus recombinant porcine expressing the gD gene from pseudorabies virus vaccine. *Vaccine.* 19: 3752-3758.

Liu, Q., Tikoo, S., and Babiuk, L.A. 2001. Nuclear localization of the ORF2 protein encoded by porcine circovirus type-2. *Virology.* 285: 91-99.

Zakhartchouk, A.N., Godson, D.L., Babiuk, L.A., and Tikoo, S.K. 2001. 121R protein from the E3 region of bovine adenovirus-3 inhibits cytolysis of mouse cells by human TNF. *Intervirology.* 44: 29-35.

Reddy, P.S., Idamakanti, N., Zakhartchouk, A.N., Babiuk, L.A., Mehtali, M., and Tikoo, S.K. 2000. Optimization of bovine coronavirus hemagglutinin-estrase glycoprotein expression in E3 deleted bovine adenovirus-3. *Virus Research* 70: 65-73.

Baca-Estrada, M.E., Foldvari, M., Ewen, C., Badea, I., and Babiuk, L.A. 2000. Effects of IL-12 on immune responses induced by transcutaneous immunization with antigens formulated in a novel lipid-based biphasic delivery system. *Vaccine* 18: 1847-1854.

Babiuk, S., Baca-Estrada, M., Babiuk, L.A., Ewen, C., and Foldvari, M. 2000. Cutaneous vaccination: The skin as an immunologically active tissue and the challenge of antigen delivery. *J. Control Release* 66: 199-214.

Reddy, P.S., Idamakanti, N., Pyne, C., Zakhartchouk, A.N., Godson, D.L., Papp, Z., Baca-Estrada, M.E., Babiuk, L.A., Mutwiri, G.K., and Tikoo, S.K. 2000. The immunogenicity and efficacy of replication-defective and replication-competent bovine adenovirus-3 expressing bovine herpesvirus-1 glycoprotein gD in cattle. *Vet. Immun. and Immunopath.* 76: 257-268.

Loehr, B.I., Willson, P., Babiuk, L.A., and van Drunen Littel-van den Hurk, S. 2000. Gene gun-mediated DNA immunization primes development of mucosal immunity against bovine herpesvirus-1 in cattle. *J. Virol.* 74: 6077-6086.

Baca-Estrada, M., Foldvari, M., Babiuk, S.L., and Babiuk, L.A. 2000. Vaccine Delivery: Lipid-based delivery systems. *Journal of Biotechnology.* 83: 91-104.

Babiuk, L.A., and Tikoo, S.K. 2000. Adenoviruses as vectors for delivering vaccines to mucosal surfaces. *Journal of Biotechnology.* 83: 105-113.

Liu, Q., Wang, L., Willson, P., and Babiuk, L.A. 2000. Quantitative, competitive PCR analysis of porcine circovirus DNA from pigs with PMWS. *J. Clin. Microbiol.* 38: 3474-3477.

Baxi, M.K., Deregt, D., Robertson, J., Babiuk, L.A., and Tikoo, S.K. 2000. Recombinant bovine adenovirus-3 expressing bovine viral diarrhea virus glycoprotein E2 induces an immune response in cotton rats. *Virology.* 278: 234-243.

Apr-05

Raggo, C., Habermehl, M., Babiuk, L.A., and Griebel, P. 2000. The *in vivo* effects of recombinant bovine herpesvirus-1 of expressing bovine interferon- α . J. Gen. Virol. 81: 2665-2673.

Gerdts, V., Babiuk, L.A., van Drunen Littel-van den Hurk, S., and Griebel, P. 2000. Fetal immunization by a DNA vaccine delivered orally into the amniotic fluid. Nature Medicine. 6: 929-932.

Tatlow, D., Brownlie, R., Babiuk, L.A., and Griebel, P. 2000. Differential display analysis of gene expression during the induction of mucosal immunity. Immunogenetics. 52: 73-80.

Baca-Estrada, M., Foldvari, M., Snider, M., Harding, K., Kournikakis, B., Babiuk, L.A., and Griebel, P. 2000. Intranasal immunization with liposome formulated Yersinia Pestis vaccine enhances mucosal immune responses. Vaccine. 18: 2203-2211.

Baca-Estrada, M.E., Foldvari, M., Snider, M., van Drunen Littel-van den Hurk, S., and Babiuk, L.A. 2000. Effect of IL-4 and IL-12 liposomal formulations on the induction of immune responses to bovine herpesvirus type 1 glycoprotein D. Vaccine. 18: 1725-1729.

Babiuk, L.A., van Drunen Littel-van den Hurk, S., Löhr, B.I., and Uwiera, R. 2000. Veterinary Applications of DNA Vaccines. Developments and Clinical Progress in DNA Vaccines. International Biological Standards. 104: 73-81.

Reddy, P.S., Idamakanti, N., Babiuk, L.A., Mehtali, M., and Tikoo, S.K. 1999. Porcine adenovirus-3 as a helper dependent expression vector. J. Gen. Virol. 80: 2909-2916.

Reddy, P.S., Idamakanti, N., Chen, Y., Whale, T., Babiuk, L.A., Mehtali, M., and Tikoo, S.K. 1999. Replication-defective bovine adenovirus type-3 as an expression vector. J. Virol. 73: 9137-9144.

Wright, P., Braun, R., Babiuk, L.A., van Drunen-Littel van den Hurk, S., Moyana, T., Zheng, C., Chen, Y., and Xiang, J. 1999. Adenovirus-mediated TNF α gene transfer induces significant tumor regression in mice. Cancer Biotherapy and Radiopharmaceuticals. 14: 49-57.

Braun, R.P., Babiuk, L.A., Loehr, B.I., and van Drunen Little-van den Hurk, S. 1999. Particle-mediated DNA immunization of cattle confers long-lasting immunity against bovine herpesvirus-1. Virology 265: 46-56.

Baxi, M., Babiuk, L.A., Mehtali, M., and Tikoo, S.K. 1999. Transcription map and expression of bovine herpesvirus-1 glycoprotein D in early region of bovine adenovirus-3. Virology. 261: 143-152.

Lewis, P.J., van Drunen Littel-van den Hurk, S., and Babiuk, L.A. 1999. Altering the cellular location of an antigen expressed by a DNA-based vaccine modulates the immune response. J. Virol. 73: 10214-10223.

Braun, R., Babiuk, L.A., van Drunen Littel-van den Hurk, S. 1999. Parameters affecting the efficacy of gene gun mediated DNA immunization of ruminants. Virology. 254: 46-56.

Mittal, S.K., Tikoo, S.K., van den Hurk, J.V., Brecker-Klassen, M., Yoo, D., and Babiuk, L.A. 1999. Functional characterization of bovine parainfluenza virus type 3 hemagglutinin neuraminidase and fusion proteins expressed by adenovirus recombinants. Intervirology. 41: 253-260.

Idamakanti, N., Reddy, P.S., Babiuk, L.A., and Tikoo, S.K. 1999. Transcription mapping and characterization of 284R and 121R proteins produced from early region 3 of bovine adenovirus type 3. Virology. 245: 351-359.

Hedge, N., Deshpande, M.S., Godson, D.L., Babiuk, L.A., and Srikumaran, S. 1999. Bovine lymphocyte antigen - All specific peptide motif as a means to identify cytotoxic T

Apr-05

lymphocyte epitopes of bovine herpesvirus-1. *Viral Immunology.* 12: 149-161.

Mittal, S.K., Tikoo, S.K., van Donkergoed, J., Beskorwayne, T., Godson, D.L., and Babiuk, L.A. Experimental inoculation of heifers with bovine adenovirus type 3. 1999. *Can. J. Vet. Res.* 153-156.

Zakhartchouk, A.N., Pyne, C., Mutwiri, G., Papp, Z., Baca-Estrada, M., Griebel, P., Babiuk, L.A., and Tikoo, S. 1999. Mucosal immunization of calves with recombinant bovine adenovirus-3: Induction of protective immunity to bovine herpesvirus-1. *J. Gen. Virol.* 80: 1263-1269.

Lewis, P.J., van Drunen Littel-van den Hurk, S., and Babiuk, L.A. 1999. Induction of immune responses to bovine herpesvirus type 1 gD in passively immune mice after immunization with a DNA-based vaccine. *J. Gen. Virology.* 80: 2829-2837.

Papp, Z., Babiuk, L.A., and Baca-Estrada, M.E. 1999. Antigen-specific cytokine and antibody isotype profiles induced by mucosal and systemic immunization with recombinant adenoviruses. *Viral Immunol.* 12: 107-116.

van Drunen Littel-van den Hurk, S., Braun, R., Karvonen, B., King, T., Yoo, D., and Babiuk, L.A. 1999. Immune responses and protection induced by DNA vaccines encoding bovine parainfluenza virus type 3 glycoproteins. *Virol.* 260: 35-46.

Reddy, P.S., Idamakanti, N., Hyun, B.H., Babiuk, L.A., and Tikoo, S.K. 1999. Development of porcine adenovirus-3 as an expression vector. *J. Gen. Virol.* 80: 563-570.

Reddy, P.S., Chen, Y., Idamakanti, N., Pyne, C., Babiuk, L.A., and Tikoo, S.K. 1999. Characterization of early region 1 and pIX of bovine adenovirus type 3. *Virology* 253: 299-308.

Hanon, E., Keil, G., van Drunen Littel-van den Hurk, S., Griebel, P., Vanderplaschen, A., Rijswijk, F.A., Babiuk, L.A., and Pastoret, P.P. 1999. Bovine herpesvirus-1 induced apoptotic cell death: Role of glycoprotein D. *Virol.* 257: 191-197.

Zakhartchouk, A.N., Reddy, S.P., Baxi, M., Baca-Estrada, M., Mehtali, M., Babiuk, L.A., Tikoo, S.K. 1998. Construction and characterization of E3 deleted bovine adenovirus-3 expressing full length and truncated forms of bovine herpesvirus-1 glycoprotein gD. *Virology.* 250: 220-229.

Papp, Z., Babiuk, L.A., Baca-Estrada, M.E. 1999. The effect of pre-existing adenovirus specific immunity on immune responses induced by recombinant adenovirus expressing glycoprotein D of bovine herpesvirus-1. *Vaccine.* 17: 933-943.

Reddy, P.S., Idamakanti, N., Song, J.Y., Lee, J.B., Hyun, B.H., Pank, J.H., Cha, S.H., Tikoo, S.K., and Babiuk, L.A. 1998. Nucleotide sequence and transcription map of porcine adenovirus-3. *Virology.* 251: 414-426.

Reddy, P.S., Idamakanti, N., Song, J.Y., Lee, J.B., Hyun, B.H., Pank, J.H., Cha, S.H., Babiuk, L.A., and Tikoo, S.K. 1999. Sequence and transcription map analysis of early region 1 of porcine adenovirus type 3. *Virus Research.* 58: 97-106.

van Drunen Littel-van den Hurk, S., Braun, R., Lewis, P.J., Karvonen, B.C., Babiuk, L.A., and Griebel, P.J. 1999. Immunization of newborn lambs with DNA encoding a herpesvirus glycoprotein is effective in the presence of maternal antibodies. *Viral Immunol.* 12: 67-77.

Jiang, M., MacLachlan, R., Babiuk, L.A. and Potter, A.A. 1999. A bovine lactoferrin-binding protein of *Streptococcus uberis*: Identification of the protein and characterization of the gene. *Infection and Immunity.* Submitted.

Morsey, M.A., Van Kessel, A.G., Mori, Y., Popowich, Y., Godson, D., Campos, and Babiuk,

Apr-05

L.A. 1999. Cytokine profiles following interaction between bovine alveolar macrophages and *Pasteurella haemolytica*. *Microbiol. Pathogenesis.* 26: 325-331.

Reddy, P.S., Idamakanti, N., Song, J.Y., Lee, J.B., Hyun, B.H., Park, J.H., Cha, S.H., Babiuk, L.A., and Tikoo, S.K. 1998. Nucleotide sequence and transcription MAP of early region 2 of porcine adenovirus type 3. *Virology* 251: 414-426.

Lee, J.B., Baxi, M.K., Idamakanti, N., Reddy, S.P., Zakhartchouk, A., Pyne, C., Babiuk, L.A., and Tikoo, S. 1998. Genetic organization and DNA sequence of early region-4 of bovine adenovirus type 3. *Virus Genes.* 17: 99-100.

Braun, R., Babiuk, L.A., and van Drunen Littel van den Hurk, S. 1998. Compatibility of plasmids expressing different antigens in a single DNA vaccine formulation. *J. Gen. Viro.* 79: 2965-2970.

Jiang, M., MacLachlan, R., Babiuk, L.A., Bolton, A., and Potter, A.A. 1998. The abp lucos of *Streptococcus uberis* encodes a protein homologous to polar amino acid and opine-binding proteins of gram negative bacteria. *Canadian Journal of Microbiol.* 44: 784-788.

Papp, Z., Babiuk, L.A. and Baca-Estrada, M. 1998. Recombinant adenovirus: Induction of immunity in respiratory tract and protection from bovine herpesvirus-1. *Viral Immunology.* 11: 79-91.

Foldvari, M., Attah-Poku, S., Hu, J., Li, Q., Hughes, H., Babiuk, L.A., and Kruger, S. 1998. Palmitoyl derivatives of interferon gamma: Potential for cutaneous delivery. *J. Pharmaceutical Sciences* 87: 1203-1208.

Baxi, M., Reddy, P.S., Zakhartchouk, A.N., Idamakanti, N., Pyne, C., Babiuk, L.A., and Tikoo, S. 1998. Nucleotide sequence analysis of bovine adenovirus-3 early region 2b. *Virus Genes.* 16: 1-4.

Babiuk, L.A., Lewis, J., Suradhat, S., Baca-Estrada, M., Foldvari, M. and Babiuk, S. 1998. Polynucleotide vaccines: Potential for inducing immunity in animals. *J. Biotechnology.* In press.

Yoo, D., Parker, M.D., Cox, G.J. and Babiuk, L.A. 1998. A conserved zinc-finger domain encoded in the open reading frame 1b of the RNA polymerase gene of coronavirus. *Nucl. Acid. Res.* Submitted.

Braun, R., Babiuk, L.A., and van Drunen-Littel van den Hurk, S. 1998. Enhanced immune response to an intradermal delivered DNA vaccine expressing a secreted form of BHV-1 gD. *Vaccine Research.* 6: 151-164.

Van Drunen-Littel van den Hurk, S., Braun, R., Lewis, P.J., Karvonen, B.C., Baca-Estrada, M., McCartney, D., Watts, T., and Babiuk, L.A. 1998. Intradermal immunization with a bovine herpesvirus-1 DNA Vaccine induces protective immunity in cattle. *J. Gen. Virology.* 79: 831-839.

Reddy, P.S., Idamakanti, N., Zakhartchouk, N., Baxi, M.K., Lee, J.B., Pyne, C., Babiuk, L.A., and Tikoo, S.K. 1998. Nucleotide sequence genome organization and transcription map of bovine adenovirus type 3. *J. Virol.* 72: 1394-1402.

Lee, J.B., Babiuk, L.A. and Yoo, D. 1998. A neutralizing monoclonal antibody to bovine rotavirus VP8 neutralizes rotavirus infection by mechanisms by passing inhibition of virus attachment to MA-104 cells. *Can. J. Vet. Res.* 62: 63-67.

Lee, J.B., Yoo, D., Redmond, M.J. and Babiuk, L.A. 1998. Characterization of the interaction between group A, bovine rotavirus VP8 and host cell receptors on erythrocytes and MA-104 cells. *Can. J. Vet. Res.* 62: 56-62.

Lewis, P.J., Cox, G., van Drunen-Littel van den Hurk, S., and Babiuk, L.A. 1997.

Apr-05

Polynucleotide vaccines in animals; enhancing and modulating responses. *Vaccine* 15: 861-864.

Baca-Estrada, M.E., Foldvari, M., Snider, M., van Drunen Littel-van den Hurk, S. and Babiuk, L.A. 1997. Effect of IL-4 and IL-12 liposomal formulations on the induction of immune responses to bovine herpesvirus type 1 glycoprotein D. *Vaccine* 15: 1753-1760.

Papp, Z., Middleton, D.M., Mittal, S.K., Babiuk, L.A. and Baca-Estrada, M. 1997. Mucosal immunization with recombinant adenovirus vectors: Induction of immunity and protection of cotton rats against respiratory bovine herpesvirus-1 infection. *J. Gen. Virol.* 78: 2933-2943.

Suradhat, S., Yoo, D., Griebel, P., Baca-Estrada, M. and Babiuk, L.A. 1997. DNA immunization with bovine rotavirus VP4 gene induces Th1-like immune responses in mice. *Viral Immunology*. 10: 117-127.

van Drunen Littel-van den Hurk, S., Tikoo, S.K., van den Hurk, J.V., Babiuk, L.A. and van Donkersgoed, J. 1997. Protective immunity in cattle following vaccination with conventional and marker bovine herpesvirus-1 (BHV-1) vaccines. *Vaccine* 15: 36-44.

Li, Y., van Drunen Littel-van den Hurk, S., Liang, X. and Babiuk, L.A. 1997. Functional analysis of the transmembrane anchor region of bovine herpesvirus 1 glycoprotein gB. *Virology*. 228: 39-54.

Liang, X., Chow, B. and Babiuk, L.A. 1997. Study of immunogenicity and virulence of bovine herpesvirus-1 mutants deficient in UL49 homolog, UL49.5 homolog and dUTPase genes in cattle. *Vaccine*, 15: 1057-1064.

Mittal, S.K., Papp, Z., Tikoo, S.K., Baca-Estrada, M., Yoo, D., Benko, M. and Babiuk, L.A. 1996. Induction of systemic and mucosal immune responses in cotton rats immunized with human adenovirus type 5 recombinants expressing the full and truncated forms of bovine herpesvirus type 1 glycoprotein gD. *Virology* 220: 299-309.

Li, Y., van Drunen Littel-van den Hurk, S., Liang, X. and Babiuk, L.A. 1996. Cytoplasmic domain of bovine herpevirus-I glycoprotein B is important for maintaining conformation and the high affinity binding site of gB. *Virology*. 222: 262-268.

van Drunen-Littel van den Hurk, S., Khattar, S., Tikoo, S.K., Babiuk, L.A., Baranowski, E., Plainchamp, D., and Thiry, E. 1996. Glycoprotein H (gII/gp108) and glycoprotein L form a functional complex which plays a role in penetration but not in attachment of bovine herpesvirus-1. *J. Gen. Virol.* 77: 1515-1520.

Li, Y., van Drunen Littel-van den Hurk, S., Liang, X. and Babiuk, L.A. 1996. Production and characterization of bovine herpesvirus glycoprotein B ectodomain derivatives in an hsp70A gene promoter-based expression system. *Archives Virol.* 141: 2019-2029.

Warren, L.M., Babiuk, L.A., Campos, M. 1996. Effect of BHV-1 on PMN adhesion to bovine lung endothelial cells. *Vet. Immunol. Immunopathol.* 55: 73-82.

Babiuk, L.A., van Drunen Littel-van den Hurk, S., Tikoo, S.K., Lewis, P.J. and Liang, X. Novel viral vaccines for livestock. *Vet. Immunol & Immunopath.* 54: 355-363.

Babiuk, L.A., van Drunen Littel-van den Hurk, S., and Tikoo, S.K. 1996. Immunology of bovine herpesvirus infections. *Vet. Microbiology*. 53: 31-42.

Raggo, C., Fitzpatrick D.R., Babiuk, L.A. and Liang, X. 1996. Expression of bovine interleukin-1 β in a bovine herpesvirus-1 vector: *In vitro* analysis. *Virol.* 221: 78-86.

Van Kessel, A., Godson, D.L., Baca-Estrada, M., Morsey, M.A., Hughes, H., Harland, H., Shuster, D., Daley, M. and Babiuk, L.A. 1996. Effect of recombinant bovine interleukin-1 β in normal calves and in calves infected with bovine herpesvirus type 1. *J. Interferon*

Apr-05

and Cytokine Res. 16: 881-890.

Brekker-Klassen, M., Yoo, D. and L.A. Babiuk. 1996. Comparisons of the F and HN gene sequences of different strains of bovine parainfluenza virus type-3: Relationship to phenotype and pathogenicity. Canadian Journal of Veterinary Research. 60:228-236.

Baca-Estrada, M.E., Snider, M., Harland, R., Tikoo, S.K., Babiuk, L.A. and van Drunen Littel-van den Hurk, S. 1996. Immunogenicity of bovine herpesvirus-1 glycoprotein gD in mice: Effect of antigen form on the induction of cellular and humoral immune responses. Viral Immunology. 9: 11-22.

Morsey, M., Popowich, Y., Kowalski, J., Gerlach, G., Godson, D., Campos, M. and Babiuk, L.A. 1996. Molecular cloning and expression of bovine interleukin-8. Microbial Pathogenesis., 20: 203-212.

Mittal, S.K., Middleton, D.M., Tikoo, S. K., Prevec, L., Graham, F.L. and Babiuk, L.A. 1996. Pathology and immunogenicity in the cotton rat (*Sigmodon hispidus*) model following infection with a bovine adenovirus type 3 recombinant virus expressing the firefly luciferase. J. Gen. Virol. 7: 1-9.

Khadr, A., Tikoo, S.K., Babiuk, L.A. and van Drunen Littel-van den Hurk, S. 1996. Sequence and expression of a bovine herpesvirus-1 gene homologous to the glycoprotein K-encoding gene of herpes simplex virus-1. Gene, 168: 189-193.

Jiang, M., Babiuk, L.A. and Potter, A.A. 1996. Cloning sequencing and expression of the CAMP factor gene of *Streptococcus uberis*. Microbiol. Pathogenesis. 20: 297-307.

McCutcheon, A. R., Roberts, T. E., Ellis, S. M., Hancock, R.E.W., Babiuk, L.A., and Towers, G.H.N. 1996. Antiviral screening of medicinal plants of the British Columbian native peoples. Journal of Ethnopharmacology, 49: 101-110.

Khattar, S., van Drunen Littel-van den Hurk, S., Attah-Poku, S., Babiuk, L.A. and Tikoo, S.K. 1996. Identification and characterization of a novel bovine herpesvirus-1 (BHV-1) glycoprotein gL which is required for proper antigenicity, processing and transport of BHV-1 glycoprotein gH. Virol. 219: 66-79.

Li, Y., Liang, X., van Drunen Littel-van den Hurk, S., Attah-Poku, S., and Babiuk, L.A. 1996. Glycoprotein gBb the N-terminal subunit of bovine herpesvirus 1gB can bind heparan sulfate on the surface of MDBK cells. J. Virol. 70: 2032-2037.

Liang, X., Chow, B., Raggo, C. and Babiuk, L.A. 1996. Bovine herpesvirus-1 UL49.5 homolog gene encodes a novel viral envelope protein that forms a disulfide-linked complex with a second virion structural protein. J. Virol. 70: 1448-1454.

Godson, D.L., Campos, M., Attah-Poku, S., Cordeiro, D., Redmond, M. J., Sethi, M.S., Harland, R.J. & Babiuk, L.A. 1996. Serum haptoglobin as an indicator of acute phase response in bovine respiratory disease. Vet. Immunol Immunopath. 51: 277-292.

Baca-Estrada, M.E., Liang, X., Babiuk, L.A. and Yoo, D. 1995. Induction of mucosal immunity in cotton rats to haemagglutinin-esterase glycoprotein of bovine coronavirus by recombinant adenovirus. Immunology 86: 134-140.

Ijaz, M.K., Alkarni, T.O., El-Mekki, A.W., Galadari, S.H.I., Dar, F.K. and Babiuk, L.A. 1995. Priming and induction of anti-rotavirus antibody response by synthetic peptides derived from VP7 and VP4. Vaccine. 13: 331-338.

Brekker-Klassen, M.M., Yoo, D., Mittal, S., Sorden, S., Haines, D. and Babiuk, L.A. 1995. Recombinant adenovirus type 3 expressing bovine parainfluenza virus type 3 glycoproteins protect *Sigmodon hispidus* cotton rats from bovine parainfluenza virus type 3 infection. J. Virol. 69: 4308-4315.

Apr-05

Mittal, S. K., Middleton, D. M., Tikoo, S. K. and Babiuk, L.A. Pathogenesis and immunogenicity of bovine adenovirus type 3 in cotton rats (*Sigmodon hispidus*). *Virology*. 213: 131-139.

Khattar, S. K., Babiuk, L. A., Tikoo, S. 1995. Identification and transcriptional analysis of a 3' - coterminal gene cluster containing UL1, UL2, UL3 and UL3.5 open reading frames of bovine herpesvirus-1 (BHV-1). *Virology*. 213: 28-37.

Lee, J.B., Babiuk, L.A., Harland, R., Gibbons, E., Elazhary, Y., Yoo, D. 1995. Immunological response of animals to *E. coli* expressed bovine rotavirus VP8. *J. Gen Virol*. 76: 2477-2483.

Liang, X., Chow, B., Li, Y., Raggo, C., Yoo, D., Attah-Poku, S., and Babiuk, L.A. 1995. Characterization of bovine herpesvirus-1 UL49 homolog gene and product: Bovine herpesvirus-1 UL49 homolog is dispensable for virus growth. *J. Virol*. 96: 3863-3867.

Li, Y., van Drunen Littel-van den Hurk, Babiuk, L.A. and Liang, X. 1995. Characterization of cell binding properties of bovine herpesvirus-1 glycoproteins B, C, and D: Dual cell binding function of gB. *J. Virol*. 69: 4758-4768.

Baca-Estrada, M.E., Godson, D.L., Hughes, H.P.A., Van Donkersgoed, J., Van Kessel, A., Harland, R., Shuster, D.E., Daley, M. and Babiuk, L.A. 1995. Effect of recombinant bovine interleukin-1 β on viral/bacterial pneumonia in cattle. *Lymphokine and Cytokine Research*. 15: 431-440.

Godson, D.L., Baca-Estrada, M.E., Van Kessel, A.G., Hughes, H.P.A., Morsy, M.M., Van Donkersgoed, J., Harland, R.J., Schuster, D.E., Daley, M.J. and Babiuk, L.A. 1995. Regulation of bovine acute phase responses by recombinant interleukin-1 β . *Can. Vet. J.* 59: 249-255.

Mittal, S.K., Prevec, L., Graham, F., and Babiuk, L.A. 1995. Development of a bovine adenovirus type 3 based expression vector. *J. Gen. Virology*. 76: 93-102

van Drunen Littel-van den Hurk, S., Garzon, S., Van den Hurk, J.V., Babiuk, L.A., and Tijssen, P. 1995. The role of the major tegument protein VP8 of bovine herpesvirus-1 in infection and immunity. *Virology*. 206: 413-425

Tikoo, S., Campos, M. and Babiuk, L.A. 1995. Lymphocyte proliferative responses to recombinant bovine herpesvirus type 1 (BHV-1) glycoprotein D(gIV) in Immune Cattle: Identification of a T cell epitope. *Viral Immunol*. 8: 19-25.

Baranowski, E., Dubuisson, J., van Drunen Littel-van den Hurk, S., Babiuk, L.A., Michel, A., Pastoret, P.P. and Thiry, E. 1995. Synthesis and processing of bovine herpesvirus 1 glycoprotein H. *Virology*. 206: 651-654.

Liang, X., Pyne, C., Babiuk, L.A., and Kowalski, J. 1995. A cell line expressing bovine herpesvirus-1 gD protein with a glycolipid membrane anchor supports growth of a gD gene deleted mutant. *Virology*. Submitted.

Liang, X.P., C. Pyne, L.A. Babiuk, Yuanhao Li, and J. Kowalski. 1995. Delineation of the essential function of bovine herpesvirus 1 gD: an indication of the modulatory role of gD in virus entry. *Virology*. 207: 429-441.

Hughes, H., Campos, M., McDougall, L., Beskorwayne, T., Potter, A., and Babiuk, L.A., 1994. Regulation of major histo compatibility complex class II expression by *Pasteurella haemolytica* leukotoxin. *Infect. Immun*. 62: 1609-1615.

van Drunen Littel-van den Hurk, S., Van Donkersgoed, J., Kowalski, J., van den Hurk, J., Harland, R., Babiuk, L.A. and Zamb, T. 1994. A subunit gIV vaccines produced by transfected mammalian cells in culture, induces mucosal immunity against bovine herpesvirus 1 in cattle. *Vaccine*. 12: 1295-1302.

Apr-05

Ijaz, M.K., Sabara, M.I., Alkarmi, T., Frenchick, P.J., Ready, K.F., Dar, F.K. and Babiuk, L.A. 1994. Molecular determinants of rotavirus virulence - localization of a potential virulence site in a murine rotavirus VP4. *Comp. Immunol. Microbiol. & Infectious Disease.* 17: 99-110.

Hughes, H.P.A., Rossow, S., Campos, M., Janssen, S., Godson, D.L., Dafflon, B., Virol., M.J., Gerber, C. and Babiuk, L.A. 1994. A slow release formulation for recombinant bovine interferon-alpha 1. *Antiviral Research.* 23: 33-44.

Cox, G., Zamb, T. and Babiuk, L.A. 1993. Bovine herpesvirus 1: Immune responses in mice and cattle injected with plasmid DNA. *J. Virol.* 67: 5664-5667.

Liang, X., Tang, M., Manns, B., Babiuk, L.A. and Zamb, T.J. 1993. Identification and deletion mutagenesis of bovine herpesvirus-1 dUTPase gene and a gene homologous to herpes simplex virus UL 49.5. *Virol.* 195: 42-50.

Orten, D.J., Xue, W., Abdelmagid, O.Y., Reddy, D.N., van Drunen Littel-van den Hurk, S., Campos, M., Babiuk, L.A., Blecha, F. and Minocha, H.C. 1993. Comparison of bovine immune response to affinity-purified bovine herpesvirus-1 anti-idiotypes and glycoproteins. *Viral Immunol.* 6: 109-118.

Denis, M., Saloui, M., Keil, G., Babiuk, L.A., Ernst, E., Pastoret, P.P. and Thiry, E. 1993. Identification of different target glycoproteins for bovine herpesvirus-1 specific cytotoxic T lymphocytes depending on the method of *in vitro* stimulation. *Immunol.* 78: 7-13.

Kowalski, J., Gilbert, S.A., van Drunen Littel-van den Hurk, S., van den Hurk, J., Babiuk, L.A. and Zamb, T. 1993. Heat-shock promoter-driven synthesis of secreted bovine herpesvirus glycoproteins in transfected cells. *Vaccine.* 11:1100-1108.

Liang, X., Tang, M., Zamb, T., Babiuk, L.A., Kowalski, J. and Tykocinski, M.L. 1993. Expression of glycoprotein gIII-human decay accelerating factor chimera on the bovine herpesvirus 1 virion via a glycosyl phosphatidylinositol-based membrane anchor. *J. Virol.* 67: 4896-4904.

Liang, X., Babiuk, L.A. and Zamb, T. 1993. Mapping of the structural domains present on bovine herpesvirus-1 and Pseudorabies virus gIII that mediate virus entry into permissive cells. *J. Virol.* 194: 233-243.

Tikoo, S., Babiuk, L.A. and Zamb, T. 1993. Analysis of bovine herpesvirus type 1 (BHV-1) glycoprotein truncations and deletions expressed by vaccinia viruses. *J. Virology.* 67: 2103-2109.

Tikoo, S., Zamb, T. and Babiuk, L.A. 1993. Role of N-linked glycans on antigenicity, processing and cell surface expression of bovine herpesvirus 1 (BHV-1) glycoprotein gIV. *J. Virology.* 67: 726-733.

Redmond, M.J., Ijaz, M.K., Parker, M., Sabara, M.I., Dent, D., Gibbons, E. and Babiuk, L.A. 1993. Assembly of recombinant rotavirus proteins into virus-like particles and assessment of vaccine potential. *Vaccine.* 11: 213-230.

van Drunen Littel-van den Hurk, S., Parker, M., Massie, B., van den Hurk, J., Harland, R., Babiuk, L.A. and Zamb, T.J. 1993. Protection of cattle from BHV-1 infection by immunization with recombinant glycoprotein gIV. *Vaccine.* 11: 25-35.

Huemer, H.P., Larcher, G., van Drunen Littel-van den Hurk, S., and Babiuk, L.A. 1993. Species specific interaction of alpha Herpesviridae with the "non-specific" immune system of the host. *Arch. Virol.* 130: 353-364.

Pfiefer, C.G., Campos, M., Beskorwayne, T., Babiuk, L.A. and Potter, A.A. 1992. Effect of *Haemophilus somnus* on phagocytosis and hydrogen peroxide production by bovine

Apr-05

polymorphonuclear leukocytes. *Microbial Pathogenesis*. 13: 191-202.

Mittal, S., Prevec, L., Babiuk, L.A. and Graham, F. 1992. Sequence analysis of bovine adenovirus type 3 early region 3 and fibre genes. *J. Gen. Virol.* 73: 3295-3300.

van Drunen Littel-van den Hurk, S., Parker, M.D., Fitzpatrick, D.R., van den Hurk, J.V., Campos, M., Babiuk, L.A. and Zamb, T. 1992. Structural, functional and immunological characterization of bovine herpesvirus-1 glycoprotein gI expressed by recombinant baculovirus. *Virology*. 190: 378-392.

Frenchick, P.J., Sabara, M.I.J., Ready, K.F.M. and Babiuk, L.A. 1992. Biochemical and immunological characterization of a novel peptide carrier system using rotavirus VP6 particles. *Vaccine*. 10: 783-791.

Xiang, J., Pan, Z., Attah-Poku, S., Babiuk, L.A., Zhang, Y and Liu, E. 1992. Production of hybrid bispecific antibody recognizing human colorectal carcinoma and CD3 antigen. *Molecular Biotherapy*. 4: 15-23.

Liang, X., Babiuk, L.A. and Zamb, T.J. 1992. An "in vivo" study of a glycoprotein gIII negative bovine herpesvirus 1 (BHV-1) mutant expressing β-galactosidase: Evaluation of the role of gIII in virus infectivity and its use as a vector for mucosal immunization. *Virology*. 189: 629-639.

Yoo, D., Graham, F.L., Prevec, L., Parker, M.D., Zamb, T. and Babiuk, L.A. 1992. Synthesis and processing of the hemagglutinin - Esterase glycoprotein of bovine coronavirus encoded in the E3 region of adenovirus. *J. Gen. Virology*. 73: 2591-2600.

Godson, D.L., Campos, M. and Babiuk, L.A. 1992. The role of bovine intraepithelial leukocyte mediated cytotoxicity in enteric antiviral defense. *Viral Immunol.* 5: 1-13.

Campos, M., Hughes, H., Godson, D., Sordillo, L.M., Rossi-Campos, A. and Babiuk, L.A. 1992. Clinical and immunological effects of single bolus administration of recombinant interleukin-2 in cattle. *Can. J. Vet. Res.* 56: 10-15.

Sordillo, L.M., Afseth, G., Davies, G. and Babiuk, L.A. 1992. Effect of recombinant granulocyte-macrophage colony stimulating factor on bovine peripheral blood and mammary gland neutrophil function *in vitro*. *Can. J. Vet. Res.* 56: 16-21.

Yoo, D., Yoo, I.D., Yoon, Y.H., Graham, F.L. and Babiuk, L.A. 1992. Helper-independent adenovirus vector expressing the haemagglutinin-esterase membrane glycoprotein. *J. Microbiol. Biotechnol.* 2: 174-182.

Sordillo, L.M., Snider, M. and Babiuk, L.A. 1992. Physiological changes in bovine mammary glands following intramammary infusion of recombinant interferon-gamma. *Can. J. Vet. Res.* 56: 22-27.

Hughes, H.P.A., Campos, M., van Drunen Littel-van den Hurk, S., Zamb, T., Sordillo, L.M., Godson, D. and Babiuk, L.A. 1992. Multiple administration with cytokines potentiates antigen-specific responses to subunit vaccination with bovine herpesvirus-1 glycoprotein IV. *Vaccine*. 10: 226-230.

Campos, M., Griebel, P., Bielefeldt-Ohmann, H. and Babiuk, L.A. 1992. Cell mediated cytotoxic responses in the lung following a primary bovine herpesvirus-1 infection. *Immunology*. 75: 47-52.

Campos, M., Rossi, C.R., Bielefeldt Ohmann, H., Beskorwayne, T., Rapin, N. and Babiuk, L.A. 1992. Characterization and activation requirements of bovine lymphocytes acquiring cytotoxic activity after interleukin-2 treatment. *Vet. Immunol. Immunopath.* 4: 259-268.

Campos, M., Bielefeldt Ohmann, H., Rapin, N. and Babiuk, L.A. 1992. Demonstration of the *in vitro* antiviral properties of bovine lymphokine activated killer (LAK) cells. *Viral*

Apr-05

Immunol. 4: 259-268.

Schuh, J.C.L., Bielefeldt Ohmann, H., Babiuk, L.A. and Doige, C.E. 1992. Bovine herpesvirus-1 induced pharyngeal tonsil lesions in neonatal versus weanling calves. J. Comp. Pathology. 106: 243-253.

Sabara, M., Parker, M., Aha, P., Cosco, C., Gibbons, E., Parsons, S. and Babiuk, L.A. 1991. Assembly of double shelled rotavirus like particles by simultaneous expression of recombinant VP6 and VP7 proteins. J. Virol. 65: 6094-6097.

Bielefeldt Ohmann, H., Babiuk, L.A. and Harland, R. 1991. Cytokine synergy with viral cytopathic effects and bacterial products during pathogenesis of respiratory tract infection. Clinical Immunology and Immunopath. 60: 153-170.

Sordillo, L.M., Snider, M., Hughes, H., Afseth, G., Campos, M. and Babiuk, L.A. 1991. Pathological changes in bovine mammary glands following intramammary infusion of recombinant interleukin-2. J. Dairy Science. 74: 4164-4174.

Hughes, H.P.A., Campos, M., Godson, D.L., van Drunen Littel-van den Hurk, S., McDougall, L., Rapin, N., Zamb, T. and Babiuk, L.A. 1991. Immunopotentiation of bovine herpesvirus subunit vaccination by interleukin-2. Immunology. 74: 461.

Hughes, H.P.A., Campos, M., Potter, A.A. and Babiuk, L.A. 1991. Molecular chimerization of *Pasteurella haemolytica* leukotoxin to interleukin-2: Effects on cytokine and antigen function. Infection and Immunity. 60: 565-570.

Yoo, D., Parker, M.D., Song, J., Cox, G.S., Deregt, D. and Babiuk, L.A. 1991. Structural analysis of the conformational domains involved in neutralization of bovine coronavirus using deletion mutants of the spike glycoprotein S1 subunit expressed by recombinant baculovirus. Virology. 183: 91-98.

Sordillo, L.M., Campos, M. and Babiuk, L.A. 1991. Antibacterial activity of bovine mammary gland lymphocytes following treatment with interleukin-2. J. Dairy Sci. 74: 3370-3375.

Liang, X., Babiuk, L.A. and Zamb, T. 1991. Pseudorabies virus gIII and bovine herpesvirus-1 gIV share common complementary functions but mediate virus attachment by distinct mechanisms. J. Virol. 65: 5553-5557.

Godson, D., Campos, M. and Babiuk, L.A. 1991. Non-MHC restricted cytotoxicity of bovine coronavirus infected targets mediated by bovine intestinal intraepithelial leukocytes. J. Gen. Virol. 72: 2457-2465.

van Donkersgoed, J. and Babiuk, L.A. 1991. Diagnosing and managing the respiratory form of infectious bovine rhinotracheitis. Vet. Medicine. pp. 86-94.

van Drunen Littel, van den Hurk, S., Parker, M.D., Fitzpatrick, D.R., Zamb, T.J., van den Hurk, J., Campos, M., Harland, R. and Babiuk, L.A. 1991. Expression of bovine herpesvirus-1 (BHV-1) glycoprotein gIV by recombinant baculovirus and analysis of its immunogenic properties. J. Virology. 65: 263-271.

Liang, X., Babiuk, L.A., Fitzpatrick, D. and Zamb, T. 1991. Bovine herpesvirus type 1 attachment to permissive cells is mediated by its major glycoproteins, gI, gIII and gIV. J. Virology. 65: 1124-1132.

Sordillo, L.M., Redmond, M.J., Campos, M., Gilbert, L. and Babiuk, L.A. 1991. Cytokine activity in bovine mammary gland secretions during the periparturient period. Can. J. Vet. Res. 55: 298-301.

Sordillo, L.M. and Babiuk, L.A. 1991. Controlling acute *Escherichia coli* mastitis during the periparturient period with recombinant bovine interferon gamma. Vet. Microbiol. 28: 189-198.

Apr-05

Ijaz, M.K., Attah-Poku, S., Redmond, M.J., Sabara, M.I. and Babiuk, L.A. 1991. Heterotypic passive protection induced by synthetic peptides corresponding to VP7 and VP4 of bovine rotavirus. *J. Virology.* 65: 3106-3113.

Yoo, D., Parker, M.D. and Babiuk, L.A. 1991. The S2 subunit of the spike glycoprotein of bovine coronavirus mediates membrane fusion in insect cells. *Virology.* 180: 395-399.

Sordillo, L.M. and Babiuk, L.A. 1991. Modulation of bovine mammary neutrophil function following *in vitro* exposure to recombinant bovine interferon gamma. *Vet. Immunol. Immunopath.* 27: 393-402.

Redmond, M.J., Bielefeldt Ohmann, H., Hughes, H., Sabara, M., Frenchick, P., Attah-Poku, S., Laarveld, B. and Babiuk, L.A. 1991. Rotavirus particles function as immunological carriers for the delivery of peptides from infectious agents and endogenous proteins. *Mol. Immunol.* 28: 269-278.

Parker, M.D., Yoo, D. and Babiuk, L.A. 1990. Expression and secretion of the bovine coronavirus hemagglutination/esterase (HE) protein by insect cells infected with recombinant baculovirus. *J. Virol.* 64: 1625-1629.

Fitzpatrick, D.R., Zamb, T.J. and Babiuk, L.A. 1990. Expression of bovine herpesvirus type 1 glycoprotein gI in transfected bovine cells induces spontaneous cell fusion. *J. Gen. Virology.* 71: 1215-1219.

Yoo, D., Parker, M.D. and Babiuk, L.A. 1990. Analysis of the S Spike (peplomer) glycoproteins of bovine coronavirus synthesized in insect cells. *Virology.* 179: 121-128.

Tikoo, S.K., Fitzpatrick, D.R., Babiuk, L.A. and Zamb, T.J. 1990. Molecular cloning, sequencing and expression of functional bovine herpesvirus type 1 glycoprotein gIV in transfected bovine cells. *J. Virol.* 64: 5132-5142.

van Drunen Littel-van den Hurk, S., Hughes, G. and Babiuk, L.A. 1990. The role of carbohydrate in the antigenic and immunogenic structure of bovine herpesvirus type 1 glycoproteins gI and gIV. *J. Gen. Virol.* 71: 2053-2063.

Fitzpatrick, D.R., Snider, M., McDougall, L., Beskorwayne, T., Zamb, T.J. and Bielefeldt Ohmann, H. and L.A. Babiuk. 1990. Molecular Mimicry: A surface glycoprotein antigenically related to a cell surface glycoprotein expressed by macrophages, polymorphonuclear leukocytes and platelets. *Immunol.* 70: 504-512.

Bielefeldt Ohmann, H., Campos, M., McDougall, L., Lawman, M. and Babiuk, L.A. 1990. Expression of tumor necrosis factor- α receptors on bovine macrophages, lymphocytes and polymorphonuclear leukocytes, internalization of receptor-bound ligand and some functional effects. *Lymphokine Research.* 9: 43-58.

van Drunen Littel-van den Hurk, S., Gifford, G. and Babiuk, L.A. 1990. The epitope specificity of the protective immunity response induced by individual bovine herpesvirus-1 (BHV-1) glycoproteins. *Vaccine.* 8: 358-368.

Fitzpatrick, D., Redmond, M.J., Attah-Poku, S., van Drunen Littel-van den Hurk, S., Zamb, T. and Babiuk, L.A. 1990. Mapping of ten epitopes of bovine herpesvirus type 1 glycoproteins gI and gIII. *Virology.* 176: 145-157.

Hutchings, D.L., Campos, M., Qualtiere, L. and Babiuk, L.A. 1990. Inhibition of antigen and interleukin-2-induced proliferation in bovine peripheral blood leukocytes by inactivated bovine herpesvirus-1 (BHV-1). *J. Virol.* 64: 4146-4151.

Parker, M., Yoo, D., Cox, G. and Babiuk, L.A. 1990. Primary structure of the E2 peplomer gene of bovine coronavirus and surface expression in insect cells. *J. Gen. Virol.* 71: 263-270.

Hutchings, D.L., van Drunen Littel-van den Hurk, S. and Babiuk, L.A. 1990. Lymphocyte

Apr-05

proliferative responses to separated bovine herpesvirus-1 proteins in immune cattle. *J. Virol.* 64: 5114-5122.

Griebel, P.J., Bielefeldt Ohmann, H., Lawman, M.J.P. and Babiuk, L.A. 1990. The interaction between bovine herpesvirus-1 and activated bovine T cells. *J. Gen. Virol.* 71: 369-377.

Frenchick, P.J., Sabara, M.I. and Babiuk, L.A. 1989. Use of a viral nucleocapsid particle as carrier for synthetic peptides. In. *Vaccine* 89. Ed. Lerner, R., Ginsberg, H., Chanock, R.M. and Brown, F. Cold Spring Harbor. pp. 479-483.

Bielefeldt Ohmann, H., Campos, M., Snider, M., Rapin, N., Beskorwayne, T., Popowich, Y., Lawman, M.J.P., Rossi, A. and Babiuk, L.A. 1989. Effect of Chronic Administration of Recombinant Bovine Tumor Necrosis Factor to Cattle. *Vet. Pathol.* 26: 462-472.

Griebel, P.J., Gajadhar, A.A., Babiuk, L.A. and Allen, J.R. 1989. Trypanosome theileri associated with T-lymphocytes isolated from a latently infected cow. *J. Protozool.* 36: 415-421.

van Drunen Littel-van den Hurk, S., Zamb, T. and Babiuk, L.A. 1989. Synthesis, cellular location and immunogenicity of bovine herpesvirus-1 glycoproteins gI and gIII expressed by recombinant vaccinia virus. *J. Virol.* 63: 2159-2168.

van Drunen Littel-van den Hurk, S. and Babiuk, L.A. 1990. The role of carbohydrate in the antigenicity and immunogenicity of bovine herpesvirus-1 (BHV-1) glycoproteins gI and gIV. *J. Gen Virol.* 71: 2053-2063.

Ijaz, M.K., Dent, D., Haines, D. and Babiuk, L.A. 1989. Development of mouse models to study rotavirus infection. *Expt. Mol. Pathol.* 51: 186-204.

Bielefeldt Ohmann, H., Campos, M., Fitzpatrick, D., Rapin, N. and Babiuk, L.A. 1989. A neutrophil derived antiviral protein: Induction requirements and biological properties. *J. Virol.* 63: 1916-1923.

Ijaz, M.K., Dent, D. and Babiuk, L.A. 1989. Neuro-immunomodulation of *in vivo* anti-rotavirus humoral immune response. *J. Neuroimmunology.* 26: 159-171.

Nagi, A.M. and Babiuk, L.A. 1989. Concanavalin A-induced suppressor cell activity in normal bovine gut mucosal leukocytes. *Am. J. Vet. Res.* 50: 1266-1271.

Nagi, A.M. and Babiuk, L.A. 1989. Recombinant human interleukin-2-induced mitogenic proliferation of *in vitro* unstimulated bovine intestinal lymphocytes. *Can. J. Vet. Res.* 53: 68-75.

Cox, G.J., Parker, M.D. and Babiuk, L.A. 1989. The sequence of cDNA of bovine coronavirus 32K non-structural gene. *Nucleic Acid Research* 17: 5847.

Fitzpatrick, D., Babiuk, L.A. and Zamb, T. 1989. A model for bovine herpesvirus type 1 glycoprotein gIII as a member of the immunoglobulin super family: Implications for the homologous glycoprotein of other alpha-herpesviruses. *Virology.* 173: 46-57.

Campos, M., Bielefeldt Ohmann, H., Hutchings, D., Rapin, N., Babiuk, L.A. and Lawman, M.J.P. 1989. Role of interferon gamma in inducing cytotoxicity of peripheral blood leukocytes to bovine herpesvirus type-2 infected cells. *Cell. Immunol.* 120: 259-269.

Griebel, P.J., Gee, A.P., Qualtieri, L., Lawman, M.J.P. and Babiuk, L.A. 1989. Negative enrichment of bovine T lymphocytes with monoclonal antibodies and magnetic microspheres. *Vet. Immun. Immunopath.* 22: 161-173.

Griebel, P.J., Bielefeldt Ohmann, H., Campos, M., Qualtieri, L., Davis, W.C., Lawman, M.J.P. and Babiuk, L.A. 1989. Bovine peripheral blood leukocyte population dynamics following treatment with recombinant bovine interferon alpha II. *J. Interferon Research.* 9: 241-253.

Nagi, A.M. and Babiuk, L.A. 1989. Characterization of surface markers of bovine gut mucosal

Apr-05

leukocytes using monoclonal antibodies. *Vet. Immunol. Immunopathol.* 22: 1-14.

Nagi, A.M. and Babiuk, L.A. 1989. Peanut agglutinin: Binding and stimulation of bovine gut intestinal and peripheral blood leukocytes. *Vet. Immunol. Immunopathol.* 22: 67-78.

Deregt, D., Parker, M., Cox, G. and Babiuk, L.A. 1989. Mapping of neutralizing epitopes to fragments of bovine coronavirus E2 protein by proteolysis of antigen-antibody complexes. *J. Gen. Virol.* 70: 647-658.

Deregt, D., Gifford, G.A., Ijaz, M.K., Watts, T.C., Haines, D.M. and Babiuk, L.A. 1989. Monoclonal antibodies to bovine coronavirus glycoproteins E2 and E3: Demonstration of virus neutralizing activity in experimentally infected calves. *J. Gen. Virol.* 70: 993-998.

Parker, M.D., Cox, G.J., Deregt, D., Fitzpatrick, D.R. and Babiuk, L.A. 1989. Cloning and *in vitro* expression of the gene for the E3 hemagglutinin glycoproteins of bovine coronavirus. *J. Gen. Virol.* 70: 155-164.

Bielefeldt Ohmann, H., Campos, M., Harland, R., Griebel, P.J., Lawman, M.J.P. and Babiuk, L.A. 1989. 2'-5' oligoadenylate synthetase activity in bovine peripheral blood mononuclear cells following bovine herpesvirus-type-1 induced respiratory disease: a prognostic indicator. *J. Interferon Research.* 9: 155-162.

Nagi, A.M. and Babiuk, 1989. Interleukin-2 production by mitogen activated bovine intestinal leukocytes. *Am. J. Vet. Res.* 50: 1591-1597.

Nagi, A.M. and Babiuk, L.A. 1989. Isolation, characterization and *in vitro* mitogenic stimulation of peripheral blood lymphocytes from American buffalo. *Can. J. Vet. Res.* 53: 493-496.

Sabara, M., Frenchick, P. and Babiuk, L.A. 1989. Characterization of a synthetic peptide corresponding to the trypsin cleavage site of a polypeptide associated with trypsin enhancement of rotavirus infectivity. *Archives of Virology.*

Campos, M., Bielefeldt Ohmann, H., Hughes, G., Babiuk, L.A., Lawman, M.J.P. 1988. Studies on the *in vitro* biological activities of recombinant bovine tumor necrosis factor (rBoTNF) alpha. I. Synergistic antiviral efficacy of rBoTNF alpha, recombinant bovine interferon gamma (rBoIFN gamma) and their combination. *Antiviral Research.* 10: 71-81.

Hughes, G., van Drunen Littel-van den Hurk S. and Babiuk, L.A. 1988. Topographical analysis of bovine herpesvirus glycoprotein IV. *Arch. Virol.* 103: 47-60.

Griebel, P.J., Qualtieri, L., Davis, W.C., Gee, A., Bielefeldt Ohmann, H., Lawman, M.J.P. and Babiuk, L.A. 1988. Peripheral blood T lymphocyte population dynamics and function following primary bovine herpesvirus-1 infection. *Viral Immunol.* 4: 287-304.

Griebel, P.J., Qualtieri, L., Davis, W.C., Lawman, M.J.P. and Babiuk, L.A. 1988. Bovine peripheral blood leukocyte subpopulation dynamics following a primary bovine herpesvirus type-1 infection. *Viral Immunol.* 4: 267-286.

Ready, K.F.M., Sabara, M.J. and Babiuk, L.A. 1988. *In vitro* assembly of the outer capsid of bovine rotavirus is calcium dependent. *Virol.* 167: 269-273.

Bielefeldt Ohmann, H. and Babiuk, L.A. 1988. Influence of interferons 1 α and of tumor necrosis factor on persistent infection with bovine viral diarrhea virus *in vitro*. *J. Gen. Virol.*, 1399-1403.

Nagi, A.M. and Babiuk, L.A. 1988. Response of bovine intestinal leukocytes to recombinant bovine interleukin-2. *J. Biol. Regulators and Homeostasis Agents.* 2: 125-133.

Bielefeldt Ohmann, H., Campos, M., Griebel, P.J. and Babiuk, L.A. 1988. 2'-5' oligo-A-synthetase activity in bovine peripheral blood leukocytes and alveolar macrophages exposed to recombinant interferons and tumor necrosis factor-alpha. *Can. J. Vet. Res.* 53: 161-166.

Apr-05

Nagi, A.M. and Babiuk, L.A. 1988. Effects of recombinant bovine alpha- and gamma interferons on some *in vitro* immune functions of bovine intra-epithelial and lamina propria leukocytes. *J. Interferon Res.* 8: 495-505.

Nagi, A.M. and Babiuk, L.A. 1988. Modulation of some Peyer's patch leukocyte functions following *in vitro* exposure to recombinant bovine alpha and gamma interferon. *Immunobiol.* 177: 329-338.

Bielefeldt Ohmann, H., Campos, M., Lawman, M. and Babiuk, L. 1988. Induction of MHC class II antigens on bovine cells of non-lymphoid origin by recombinant bovine interferon and tumour necrosis factor. *J. Interferon Res.* 8: 451-462.

Nagi, A.M. and Babiuk, L.A. 1988. Bovine Gut-Associated Lymphoid Tissue: Morphologic and Functional Studies II. Preparation and purification of bovine Peyer's patch leukocytes. *Can. J. Vet. Res.* 52: 249-257.

Bielefeldt Ohmann, H. and Babiuk, L.A. 1988. Induction of Receptors for Complement and Immunoglobulins by Herpesviruses of Various Species. *Virus Research*. 9: 335-342.

Gifford, G.A., Potter, A.A. and Babiuk, L.A. 1988. Clinical evaluation of ampicillin-sulbactam for treatment of experimental bovine pneumonic pasteurellosis. *Can. Vet. J.* 29: 142-148.

Lawman, M.J.P., Griebel, P., Hutching, D.L., Davis, W.C., Heise, J., Qualtieri, L. and Babiuk, L.A. 1988. Generation of IL-2 dependent bovine cytotoxic T lymphocyte clones reactive against BHV-1 infected target cells: loss of genetic restriction and virus specificity. *Viral Immunology*. 1: 163-176.

Bielefeldt Ohmann, H., Sabara, M., Lawman, M.J.P., Griebel, P. and Babiuk, L.A. 1988. A monoclonal antibody detects a macrophage maturation antigen which appears independently of Class II antigen expression. Reactivity of monoclonal EBM11 with bovine macrophages. *J. Immunol.* 140: 2201-2209.

Nagi, A.M. and Babiuk, L.A. 1987. Bovine Gut-Associated Lymphoid Tissue: Morphologic and Functional Studies I. Isolation and characterization of leukocytes from the epithelium and lamina propria of bovine small intestine. *J. Immunol. Methods*. 105: 23-37.

Lawman, M.J.P., Gifford, G.A., Issa, M., Dragan, R., Heise, J. and Babiuk, L.A. 1987. Immunomodulation of polymorphonuclear (PMN) leukocyte functions by recombinant bovine interferon alpha₁ during bovine herpesvirus-1 induced respiratory disease. *Antiviral Research*. 8: 225-238.

Ijaz, M.K., Sabara, M.I., Frenchick, P.J. and Babiuk, L.A. 1987. Assessment of intestinal damage in rotavirus infected neonatal mice by a D-xylose adsorption test. *J. Virol. Methods*. 18: 153-157.

Deregt, D., Sabara, M.I.J. and Babiuk, L.A. 1987. Structural proteins of bovine coronavirus and their intracellular processing. *J. Gen. Virol.* 68: 2863-2878.

Deregt, D. and Babiuk, L.A. 1987. Monoclonal antibodies to bovine coronavirus: Characteristics and topographical mapping of neutralizing epitopes of the E2 and E3 glycoproteins. *Virology*. 161: 410-420.

Kournikakis, B. and Babiuk, L.A. 1987. Murine cytomegalovirus-pseudomonas synergistic infections: comparison of virulent and attenuated virus. *Can. J. Microbiol.* 33: 923-927.

Ijaz, M.K., Sabara, M.I., Frenchick, P.J. and Babiuk, L.A. 1987. Effect of different routes of immunization with bovine rotavirus on lactogenic antibody responses in mice. *Antiviral Research*. 8: 283-298.

Griebel, P., Schoonderwoerd, M. and Babiuk, L.A. Ontogeny of the immune response: Effect of protein-energy malnutrition in neonatal calves. *Can. J. Vet. Res.* - 51: 428-435.

Apr-05

Potter, A.A., Cox, G., Parker, M. and Babiuk, L.A. 1987. The complete nucleotide sequence of bovine rotavirus C486 gene 6 cDNA. *Nucleic Acid Res.* 15: 4361.

Shahrabadi, M.S., Babiuk, L.A. and Lee, P.W.K. 1987. Further analysis on the role of calcium in rotavirus morphogenesis. *Virology*. 158: 103-111.

Babiuk, L.A., Lawman, M.J.P. and Gifford, G.A. 1987. Recombinant bovine alpha₁ interferon: Use in reducing bovine herpesvirus-1 induced respiratory disease. *Antimicrobial Agents Chemo.* 31: 752-757.

Babiuk, L.A., L'Italien, J., van Drunen Littel-van den Hurk, S., Zamb, T., Lawman, M.J.P., Hughes, G. and Gifford, G.A. 1987. Protection of cattle from bovine herpesvirus-1 (BHV-1) infection by immunization with individual viral glycoproteins. *Virol.* 159: 57-66.

Mechor, G.D., Rousseaux, C.G., Radostitis, O.M. and Babiuk, L.A. 1987. Protection of newborn calves against infectious bovine rhinotracheitis (IBR) by vaccination of the pregnant DAM with an intranasal vaccine. *Can. J. Vet. Res.* 51: 452-459.

Sabara, M., Ready, K.F.M., Frenchick, P.J. and Babiuk, L.A. 1987. Biochemical evidence for the oligomeric arrangement of bovine rotavirus nucleocapsid protein and its possible significance to the immunogenicity of this protein. *J. Gen. Virol.* 68: 123-133.

Morck, D.W., Raybould, T.J.G., Acres, S.D., Babiuk, L.A., Nelligan, J. and Costerton, J.W. 1987. Electron microscopic description of glycocalyx and fimbriae on the surface of *Pasteurella haemolytica*. *Can. J. Vet. Res.* 51: 83-88.

Bielefeldt Ohmann, H., Baker, P.E. and Babiuk, L.A. 1987. Effect of Dexamethasone on bovine leukocyte functions and BHV-1 replication. *Can. J. Vet. Res.* - 51: 350-357.

van Drunen Littel-van den Hurk, S. and Babiuk, L.A. 1986. Synthesis and processing of bovine herpesvirus-1 (BHV-1) glycoproteins. *J. Virol.* 59: 401-410.

Bielefeldt Ohmann, H. and Babiuk, L.A. 1986. Alteration of some leukocyte function following *in vitro* and *in vivo* exposure to recombinant bovine interferon and. *L Interferon Research.* 6: 123-136.

Bielefeldt Ohmann, H., Davis, W.C. and Babiuk, L.A. 1986. Surface antigen expression on bovine alveolar macrophages. Functional correlation and influence of interferon *in vitro* and *in vivo*. *Immunobiol.* 171: 125-142.

Bielefeldt Ohmann, H. and Babiuk, L.A. 1986. Alteration of alveolar functions following aerosol infection with bovine herpesvirus type-1. *Infect. Immunity.* 51:344-347.

van Drunen Littel-van den Hurk, S. and Babiuk, L.A. 1986. Polypeptide specificity of the antibody response following primary and recurrent bovine herpesvirus type-1 (BHV-1) infection. *J. Clin. Microbiol.* 23:274-283.

Bielefeldt Ohmann, H. and Babiuk, L.A. 1986. Bovine alveolar macrophages: phenotypic and functional properties of subpopulations obtained by Percoll density gradient centrifugation. *J. Leukocyte Biol.* 39: 167-181.

Bielefeldt Ohmann, H. and Babiuk, L.A. 1986. Alveolar macrophage characteristics: Effect of repeated lavage on activity. *Vet. Immunol. Immunopath.* 13: 331-346.

Bielefeldt Ohmann, H. and Babiuk, L.A. 1986. Viral infections in domestic animals as models for studies of viral immunology and pathogenesis. *J. Gen. Virol.* 66: 1-25.

Sabara, M., Barrington, A. and Babiuk, L.A. 1985. Immunogenicity of a bovine rotavirus glycoprotein fragment. *J. Virol.* 56: 1037-1040.

Bielefeldt Ohmann, H. and Babiuk, L.A. 1985. *In vitro* and systemic effects of recombinant bovine interferons on natural cell-mediated cytotoxicity in healthy and bovine

Apr-05

herpesvirus-1 infected cattle. *J. Interferon. Res.* 415: 551-562.

Anderson, K., Czarniecki, C., McCracken, J., Bielefeldt Ohmann, H. and Babiuk, L.A. 1985. The potential uses of bovine interferon for bovine respiratory disease. *4th Vet. Resp. Symposium.* pp. 39-46.

Babiuk, L.A., Bielefeldt Ohmann, H., Gifford, G., Czarniecki, C., Scialli, V.T. and Hamilton, E.B. 1985. Effect of bovine-1 interferon on bovine herpesvirus-1 induced respiratory disease. *J. Gen. Virol.* 66: 2383-2394.

Ayisi, N.K., Gupta, S.V. and Babiuk, L.A. 1985. Combination Chemotherapy: Efficacy of Methoxymethyl-2'-deoxyuridine in combination with arabinofuranosyl-adenine for the treatment of experimental primary herpes simplex vaginitis. *Antiviral Research.* 6: 33-47.

Bielefeldt Ohmann, H. and Babiuk, L.A. 1985. Viral bacterial pneumonia in calves: Effect of bovine herpesvirus-1 on immunological functions. *Journal Infect. Dis.* 151: 937-947.

Bielefeldt Ohmann, H., Davis, W.C. and Babiuk, L.A. 1985. Functional and phenotypic characteristics of bovine natural cytotoxic cells. *Immunobiology.* 169:503-519.

Crouch, C.F., Bielefeldt Ohmann, H., Watts, T.C. and Babiuk, L.A. 1985. Chronic shedding of bovine enteric coronavirus by clinically normal cows. *J. Gen. Virol.* 66: 1489-1500.

van Drunen Littel-van den Hurk, S., van den Hurk, J.V. and Babiuk, L.A. 1985. Topographical analysis of bovine herpesvirus type 1 (BHV-1) glycoproteins: Use of monoclonal antibodies to identify and characterize functional epitopes. *Virol.* 144: 216-227.

Czarniecki, C.W., Anderson, K., Fennie, E.B., Bielefeldt Ohmann, H. and Babiuk, L.A. 1985. Bovine interferon alpha-1 is an effective inhibitor of bovine herpesvirus-1 induced respiratory disease. *Antiviral Research Supp 1* 209-215.

van Drunen Littel-van den Hurk, S. and Babiuk, L.A. 1985. Antigenic and immunogenic characteristics of bovine herpesvirus type-1 (BHV-1) glycoproteins GVP 3/9 and GVP 6/11a/16, purified by immunoabsorbent chromatography. *Virol.* 144: 204-215.

van Drunen Littel-van den Hurk, S. and Babiuk, L.A. 1985. Effect of tunicamycin and monensin on biosynthesis, transport and maturation of bovine herpesvirus type-1 (BHV-1) glycoproteins. *Virol.* 143: 104-118.

Sabara, M., Gilchrist, J., Hudson, G.R. and Babiuk, L.A. 1985. Preliminary characterization of an epitope located on the major bovine rotavirus glycoprotein involved in neutralization and cell attachment. *J. Virol.* 53: 58-66.

Ayisi, N.K., Babiuk, L.A. and Gupta, V.S. 1985. Combination chemotherapy: Interaction of 5-methoxymethydeoxyuridine with trifluorothymidine phosphonoformate and acycloguanosine against Herpes simplex viruses. *Antiviral Research.* 5: 13-27.

Babiuk, L.A., Sabara, M.I. and Hudson, G.R. 1984. Viral induced enteritis in animals. *Prog. Vet. Microbiol.* 1: 80-120.

Filion, L., Bielefeldt Ohmann, H., Owen, P.W. and Babiuk, L.A. 1984. Characterization of the bovine secondary *in vitro* antibody response. *Vet. Immunol. Immunopath.* 7: 19-32.

Bielefeldt Ohmann, H., Gilchrist, J.E. and Babiuk, L.A. 1984. Effect of recombinant alpha, interferon (BoIFN 1) on the interaction between bovine alveolar macrophages and bovine herpesvirus-1. *J. Gen. Virol.* 65: 1487-1495.

Babiuk, L.A. and Acres, S.D. 1984. Experimental models of bovine respiratory diseases. In: *Bovine Respiratory Disease: A Symposium.* Ed. R.W. Loan, Texas A&M Univ. Press. pp. 287-325.

Filion, L.G., Willson, P.J., Bielefeldt-Ohmann, H., Babiuk, L.A. and Thomson, R.G. 1984. The

Apr-05

possible role of stress in the induction of pneumonic pasteurellosis. *Can. J. Comp. Med.* 48: 268-274.

Bielefeldt Ohmann, H., Filion, L.G. and Babiuk, L.A. 1984. Bovine monocytes and macrophages: An accessory role in suppressor cell generation by Con A and in lectin induced proliferation. *Immunol.* 50:189-197.

Babiuk, L.A. and Bielefeldt Ohmann, H. 1984. Effect of levamisole and bovine interferon 1 on bovine immune responses and susceptibility to bovine herpesvirus. In: *Chemical Regulation of Immunity in Vet. Medicine*. Ed. M. Kende, J. Gainer and Chirigos. pp. 433-442.

H. Bielefeldt Ohmann, Filion, L.G. and Babiuk, L.A. 1984. Cellular interactions in the generation of bovine Con-A suppressor cells, and in the mitogen proliferation response. *Vet. Immunol. Immunopath.* 6: 307-320.

Flewell, T.H. and Babiuk, L.A. 1984. Prospects for rotavirus vaccines in man and animals. *Control of Virus Disease* Ed. Kurstak, E. and Marusyk, R. pp. 57-65.

McGuire, R.L. and Babiuk, L.A. 1984. Evidence for defective neutrophil functions in calves exposed to Infectious Bovine Rhinotracheitis. *Vet. Immunol. Immunopath.* 5: 259-271.

Babiuk, L.A. 1984. Viral-bacterial synergistic interactions in respiratory infections. *Applied Virol.* 1: 431-443.

Babiuk, L.A. 1984. Gastroenteritis infections in animals. *Applied Virol.* 1: 349-363.

Sabara, M. and Babiuk, L.A. 1984. Identification of a bovine rotavirus gene and gene product responsible for absorption of virus of cells. *J. Virol.* 51: 489-496.

Filion, L.G., Willson, P.J., Bielfeldt Ohmann, H. Babiuk, L.A., and Thomson, R.G. 1984. The effect of stress in the induction of pneumonic pasteurellosis. *Can. J. Comp. Med.* 48: 268-274.

Janzen, E.D., Stockdale, P.H.G., Acres, S.D. and Babiuk, L.A. 1984. Therapeutic and prophylactic effects of some antibodies on experimental shipping fever. *Can. Vet. J.* 25: 78-81.

van den Hurk, S., van den Hurk, J., Gilchrist, J., Misra, V. and Babiuk, L.A. 1984. Interactions of monoclonal antibodies and bovine herpesvirus type 1 (BHV-1) glycoproteins: Characterization of their biochemical and immunological properties. *Virol.* 135: 466-479.

Bielefeldt Ohmann, H. and Babiuk, L.A. 1984. Effect of bovine recombinant alpha interferon on inflammatory responses of bovine phagocytes. *J. Interferon Res.* 4:249-263.

Perry, H.B. and Babiuk, L.A. 1984. Structure of the polysaccharide chain of *Pasteurella haemolytica* (serotype 4) lipopolysaccharide. *Can. J. Biochem.* 62: 108-114.

Bielefeldt Ohmann, H. and Babiuk, L.A. 1984. *In vitro* generation of hydrogen peroxide and superoxide anion by bovine polymorphonuclear neutrophilic granulocytes, blood monocytes and alveolar macrophages. *Inflammation* 8: 251-275.

Misra, V., Babiuk, L.A. and Darcel, C. 1983. Analysis of bovine herpesvirus isolates by restriction endonuclease fingerprinting. *Archives of Virology.* 76: 341-354.

Yates, W.D.G., Stockdale, P.H.G., Babiuk, L.A. and Smith, R.S. 1983. Prevention of experimental bovine pneumonic pasteurellosis with an antigen of *Pasteurella haemolytica*. *Can. J. Comp. Med.* 47: 250-256.

Yates, W.D.G., Jericho, W.K.F. and Babiuk, L.A. 1983. Viral bacterial pneumonia in calves: duration of the interaction between bovine herpesvirus-1 and *Pasteurella haemolytica*. *Can. J. Comp. Med.* 47: 257-264.

Friend, S.C.E., Babiuk, L.A. and Schiefer, H.B. 1983. The effect of dietary T-2 toxin on the

Apr-05

immunological function and herpes simplex reactivation in Swiss mice by the mitogen assay. *Toxicol. Appl. Pharmacol.* 69: 234-244.

Wooode, G.N., Kelson, N.E., Simpson, T.F., Gaul, S., Evans, L.E. and Babiuk, L.A. 1983. Antigenic relationships among some bovine rotaviruses, serum neutralization and cross-protection in gnotobiotic calves. *J. Clin. Microbiol.* 18: 358-364.

Filion, L., McGuire, R. and Babiuk, L.A. 1983. The non-specific immunosuppressive effect of BHV-1 infection in cattle on bovine leukocyte functions. *Infect. Immun.* 42: 106-112.

Friend, S.C.E., Schiefer, B. and Babiuk, L.A. 1983. The effect of dietary T-2 toxin on acute herpes simplex virus type-1 infection in mice. *Vet. Pathol.* 20: 737-760.

Friend, S.C.E., Hancock, D.S., Scheifer, H.B. and Babiuk, L.A. 1983. Experimental T-2 toxicosis in sheep. *Can. J. Comp. Med.* 47: 291-297.

Sabara, M., Gilchrist, J., Babiuk, L.A. and Hudson, G.R. 1983. A study of the bovine rotavirus type specific antigen. *Proc. 4th Int. Symposium on Neonatal Diarrhea.* 28-47.

Deregt, D., Crouch, C., Sabara, M., Gilchrist, J., Babiuk, L.A. and Hudson, G.R. 1983. Preliminary studies of a bovine coronavirus (BCV) antigen responsible for neutralization. *Proc. 4th Int. Symposium on Neonatal Diarrhea.* pp. 117-133.

Babiuk, L.A., Acres, S.D., Janzen, G., Misra, V. and Declerq, E. 1983. Comparison of *in vitro* and *in vivo* Efficacy of Anti-herpes Virus Drugs Against BHV-1. *Antimicrobial Agents Chemotherapy.* 23: 715-720.

Sabara, M. and Babiuk, L.A. 1983. The significance of rotavirus electrophoretic heterogeneity within individual bovine rotavirus isolates. Eds. R.W. Compans and D.H.L. Bishop, In: *Double Stranded RNA Viruses*, 95-106.

Misra, V., Nelson, R. and Babiuk, L.A. 1983. Bromovinyl Deoxyuridine (BVdU) Inhibits the Glycosylation of Herpesvirus Glycoproteins. *Antimicrobial Agents Chemotherapy.* 23: 857-865.

Jericho, K.W.F. and Babiuk, L.A. 1983. The effect of intramuscular versus intranasal vaccination with differing titres of bovine herpesvirus-1 (infectious bovine rhinotracheitis) on experimental respiratory disease. *Canadian Journal of Comparative Medicine.* 47: 133-139.

Sabara, M., Deregt, D., Babiuk, L.A. and Misra, V. 1982. Genetic Heterogeneity within individual bovine rotavirus isolates. *Journal of Virology.* 44: 813-822.

Rodak, L., Babiuk, L.A. and Acres, S.D. 1982. Radioimmunological (RIA) and Enzymological (ELISA) detection of coronavirus antibodies in bovine serum and lacteal secretions. *Journal of Clinical Microbiology.* 16: 34-40.

Misra, V., Gilchrist, J., Weinmaster, G., Qualtiere, L., van den Hurk, S., Babiuk, L.A. 1982. A herpesvirus induced "Early Glycoprotein: Characterization and possible role in immune cytolysis. *Journal of Virology.* 43: 1046-1054.

Sabara, M., Babiuk, L.A., Gilchrist, J. and Misra, V. 1982. Effect of Tunicamycin on Rotavirus Assembly and Infectivity. *Journal of Virology.* 43: 1082-1090.

Babiuk, L.A. and Misra, V. 1982. Effect of levamisole on immune responses to bovine herpesvirus-1. *American Journal of Veterinary Research.* 43: 1349-1354.

Jericho, K.W.F., Yates, W.D.G.H. and Babiuk, L.A. 1982. Bovine herpesvirus-1 (BHV-1) vaccination against experimental BHV-1 and *Pasteurella haemolytica* respiratory infection: onset of protection. *American Journal of Veterinary Research.* 43: 1776-1782.

Weinmaster, G., Misra, V., McGuire, R., Babiuk, L.A. and Declerq, E. 1982. Bovid herpes type-1 (infectious bovine rhinotracheitis) induced thymidine kinase. *Virology* 118:

Apr-05

191-201.

McGuire, R.L. and Babiuk, L.A. 1982. *In vitro* culture of bovine alveolar macrophages. *J. Reticulo. Endoth. Soc.* 31: 251-260.

Forman, A.J., Babiuk, L.A., Misra, V. and Baldwin, F. 1982. The susceptibility of bovine macrophages to infectious bovine rhinotracheitis virus infection. *Infection and Immunity.* 35: 1048-1057.

Forman, A.J., Babiuk, L.A., Baldwin, F. and Friend, S.C.E. 1982. The effect of infectious bovine rhinotracheitis virus infection of calves on cell populations recovered by lung lavage. *American Journal of Veterinary Research.* 43: 1174-1179.

Forman, A.J. and Babiuk, L.A. 1982. The effect of infectious bovine rhinotracheitis virus infection on bovine alveolar macrophage function. *Infection and Immunity.* 35:1041-1047.

Ho, C.K. and Babiuk, L.A. 1981. Infection of Canine Mononuclear Leukocytes by Measles Virus: Possible Mechanisms of Protection from Canine Distemper. *Canadian Journal of Microbiology.* 27: 1128-1131.

Misra, V., Blumenthal, R.M. and Babiuk, L.A. 1981. Proteins specified by bovine herpesvirus type-1. (Infectious bovine rhinotracheitis virus). *Journal of Virology.* 40: 367-378.

Smith, R.H., Babiuk, L.A. and Stockdale, P.H.G. 1981. Intranasal immunization of mice against *Pasteurella multocida*. *Infection and Immunity.* 31: 129-135.

Carpio, M.M., Bellamy, J.E. and Babiuk, L.A. 1981. Comparative Virulence of Different Bovine Rotavirus Isolates. *Canadian Journal of Comparative Medicine.* 45: 38-42.

Carpio, M.M., Babiuk, L.A., Misra, V. and Blumenthal, R.M. 1981. Bovine rotavirus cell interactions: Effect of virus infection on cellular integrity and macromolecular synthesis. *Virology.* 114: 86-97.

Ho, C.K. and Babiuk, L.A. 1980. Immune mechanisms against canine distemper. *Immunology.* 39: 231-237.

Grewal, A.S. and Babiuk, L.A. 1980. Complement dependent polymorphonuclear neutrophil mediated cytotoxicity of herpesvirus infected cells: possible mechanisms of cytotoxicity. *Immunology.* 40: 151-161.

Ayisi, N.K., Gupta, V.S., Meldrum, J.B., Taneja, A.K. and Babiuk, L.A. 1980. Combination chemotherapy: interaction of 5-methoxymethyl deoxyuridine with adenine arabinoside, 5-ethyldeoxyuridine, 5-iododeoxyuridine and phosphonoacetic acid against herpes simplex virus types 1 and 2. *Antimicrobial Agents and Chemotherapy.* 17: 558-566.

Meldrum, J.B., Gupta, V.S. and Babiuk, L.A. 1980. Comparative efficacy of 5-methoxymethyl-2' deoxyuridine, 9 Beta-D-Arabinofuranosyladenine and 5-Iodo-2'-Deoxyuridine in the treatment of experimental herpes keratitis. *Chemotherapy.* 26: 54-63.

Grewal, A.S., Rouse, B.T. and Babiuk, L.A. 1980. Mechanisms of Recovery from Viral Infections: Destruction of Infected Cells by Neutrophils and Complement. *Journal of Immunology.* 124: 312-319.

Rouse, B.T., Babiuk, L.A., Martin, W.H. and Henson, P.M. 1980. Neutrophils in Antiviral Immunity: Inhibition of Viral Replication by a Mediator Produced by Bovine Neutrophils. *Journal of Infectious Diseases,* 141: 223-232.

Babiuk, L.A. and Misra, V. 1980. Persistent infection of BSC-1 cells with rotavirus. *INSERM,* 91-94.

Grewal, A.S., Carpio, M.M. and Babiuk, L.A. 1980. Polymorphonuclear eutrophil-mediated

Apr-05

Antibody-Dependent Cytotoxicity of Herpesvirus Infected Cells: Ultrastructural Studies. Canadian Journal of Microbiology, 26: 427-435.

Pastoret, P.P., Babiuk, L.A., Misra, V. and Griebel, P. 1980. Reactivation of Temperature Sensitive and Non-Temperature Sensitive Infectious Bovine Rhinotracheitis Vaccine Virus with Dexamethasone. Infection and Immunity, 29: 483-488.

Ho, C.K. and Babiuk, L.A. 1979. Mechanisms of Heterotypic Immunity Against Canine Distemper. Experiments, 35: 1179-1181.

Hayes, M.A., Russell, R.G. and Babiuk, L.A. 1979. Sudden Death in Young Dogs with Myocarditis Caused by Parvoviruses. Journal of the American Veterinary Medical Association, 174: 1197-1203.

Acres, S.D., Issacson, R.E., Babiuk, L.A. and Kapitany, R.A. 1979. Immunization of Calves Against Enterotoxigenic Colibacillosis by Vaccinating Dams with Purified K99 Antigen and Whole Cell Bacterins. Infection and Immunity, 25: 121-126.

Ho, C.K. and Babiuk, L.A. 1979. Immune Mechanisms Against Canine Distemper: I. Identification of a K Cell Against Canine Distemper Infected Target Cells *in vitro*. Immunology, 37: 231-237.

Ho, C.K. and Babiuk, L.A. 1979. Development and Utilization of a Plaque System for Canine Distemper Virus: Characteristics of the Green Strain of Canine Distemper. Canadian Journal of Microbiology, 25: 680-685.

Monette, J.P.L., Carpio, M.M., Kapitany, R.A. and Babiuk, L.A. 1979. Polypeptide analysis of bovine rotavirus Proceedings of the Second International Symposium on Neonatal Diarrhea, 249-262.

Carpio, M.M. and Babiuk, L.A. 1979. Ultrastructural changes during calf-rotavirus replication of BSC-1 monkey kidney cells in culture. Proceedings of the Second International Symposium on Neonatal Diarrhea, 237-248.

Spence, L., Fauvel, M., Petro, R., Gillani, A. and Babiuk, L.A. 1979. A preliminary study of antigenic relationships among isolates of bovine rotaviruses. Proceedings of the Second International Symposium on Neonatal Diarrhea, 263-272.

Babiuk, L.A. and Rouse, B.T. 1979. Immune Control of Latency. Canadian Journal of Microbiology, 25: 267-274.

Fretz, P.B., Babiuk, L.A. and McLaughlin, B. 1979. Equine Respiratory Disease on the Western Canadian Racetracks. Canadian Veterinary Journal, 20: 58-61.

Ho, C.K. and Babiuk, L.A. 1979. Long Term Culture of Canine Peripheral Blood Monocytes *in vitro*. Canadian Journal of Comparative Medicine, 43: 223-228.

Grewal, A.S. and Babiuk, L.A. 1979. Induction, Isolation and Surface Marker Studies on Bovine Eosinophils. Journal of Immunology Methods, 25: 65-75.

Acres, S.D. and Babiuk, L.A. 1978. Studies on Rotavirus Antibody in Bovine Serum and Lacteal Secretions Using a Radioimmunoassay. Journal of the American Veterinary Medical Association, 173: 555-559.

Rouse, B.T., Babiuk, L.A. and Hensen, P.M. 1978. Neutrophils are Mediators of Antiviral Immunity. Experiments, 34: 346-348.

Grewal, A.S. and Babiuk, L.A. 1978. Bovine T Lymphocytes - An Improved Technique of E Rosette Formation. Journal of Immunological Methods, 24: 355-361.

Fujimiya, Y., Babiuk, L.A. and Rouse, B.T. 1978. Direct Lymphocytotoxicity Against Herpes Simplex Virus Infected Cells. Canadian Journal of Microbiology, 24: 1046-1081.

Mohammed, K., Babiuk, L.A., Saunders, J.R. and Acres, S.D. 1978. Rotavirus Diagnosis:

Apr-05

Comparison of Various Antigens and Serological Tests. *Veterinary Microbiology*, 3: 115-127.

Rouse, B.T. and Babiuk, L.A. 1978. Mechanisms of Recovery From Herpesvirus Infections - A Review. *Canadian Journal of Comparative Medicine*, 42: 415-427.

Spence, L., Fauvel, M., Petro, R. and Babiuk, L.A. 1978. Comparison of Rotavirus Strains by Hemagglutination Inhibition. *Canadian Journal of Microbiology*, 24: 353-356.

Warenycia, M.W., Allen, J.R., Babiuk, L.A. and Gordon, J. 1978. Identification of Trypanosoma theileri as a Contaminant in Primary Cultures of Bovine Retina. *Experimentia*, 34: 473-474.

Ho, C.K. and Babiuk, L.A. 1978. Isolation of Various Canine Leukocytes and Their Characterization by Surface Marker Analysis. *Immunology*, 35: 733-740.

Monteane, M., Babiuk, L.A. and Schiefer, B. 1978. Studies on the Occurrence and Significance of Bovine Respiratory Syncytial Virus in Saskatchewan. *Canadian Journal of Comparative Medicine*, 42: 246-248.

Fauvel, M., Spence, L., Babiuk, L.A., Petro, R. and Block, S. 1978. Hemagglutination of Hemagglutination Inhibition Studies With a Strain of Nebraska Calf Diarrhoea Virus (Bovine Rotavirus). *Intervirology*, 9: 95-105.

Ho, C.K., Babiuk, L.A. and Rouse, B.T. 1978. Lack of histocompatibility Restriction of T Cell Lysis in Canines. *Infection and Immunity*, 19: 18-25.

Fujimiya, Y., Rouse, B.T. and Babiuk, L.A. 1978. Human Neutrophils Mediated Destruction of Antibody Sensitized Herpes Simplex Virus Type I Infected Cells. *Canadian Journal of Microbiology*, 24: 182-186.

Babiuk, L.A. and Rouse, B.T. 1978. Enhancement of Immunological Activity of Type II Interferon. Implications for Recovery from Herpesvirus Infections. *International Archives of Allergy and Applied Immunology*, 57: 62-73.

Babiuk, L.A. and Mohammen, K. 1977. Trypsin Enhances Rotavirus Replication. *Veterinary Record*, 102: 61-62.

Grewal, A.S., Rouse, B.T. and Babiuk, L.A. 1977. Characterization of Surface Receptors on Bovine Leukocytes. *International Archives of Allergy and Immunology*, 56: 289-300.

Babiuk, L.A., Acres, S.D. and Rouse, B.T. 1977. Solid Phase Radioimmunoassay Assays for Detecting Bovine (Neonatal Calf Diarrhoea) Rotavirus Antibodies. *Journal of Clinical Microbiology*, 6: 10-15.

Rouse, B.T., Wardley, R.C., Babiuk, L.A. and Mukkur, T.K. 1977. The Role of Neutrophils in Antiviral Defense - *In vitro* Studies on the Mechanism of Antiviral Inhibition. *Journal of Immunology*, 118: 1957-1961.

Rouse, B.T., Grewal, A.S., Babiuk, L.A. and Fujimiya, Y. 1977. Enhancement of Antibody Dependent Cell Cytotoxicity of Herpesvirus Infected Cells by Complement. *Infection and Immunity*, 18: 660-665.

Rouse, B.T., Grewal, A.S. and Babiuk, L.A. 1977. Complement Enhances Antiviral Antibody Dependent Cell Cytotoxicity. *Nature*, 226: 456-458.

Babiuk, L.A., Mohammed, K., Spence, L., Fauvel, M. and Petro, R. 1977. Rotavirus Isolation in the Presence of Trypsin. *Journal of Clinical Microbiology*, 6: 610-617.

Babiuk, L.A. and Rouse, B.T. 1977. Bovine Type II Interferon: Activity in Heterologous Cells. *Intervirology*, 8: 250-256.

Rouse, B.T., Wardley, R.C. and Babiuk, L.A. 1976. The role of antibody dependent cytotoxicity in recovery from herpesvirus infection. *Cell. Immunol.* 22: 182-186.

Apr-05

Wardley, R.C., Rouse, B.T. and Babiuk, L.A. 1976. Physiological Modulation of Neutrophil Mediates Antibody Dependent Cell Cytotoxicity. Canadian Journal of Microbiology, 22: 1222-1228.

Wardley, R.C., Rouse, B.T. and Babiuk, L.A. 1976. Antibody Dependent Cytotoxicity Mediated by Neutrophils as a Possible Mechanism of Antiviral Defense. Journal of Ret. End. Soc., 19: 323-332.

Rouse, B.T., Babiuk, L.A. and Gupta, V.S. 1976. The Effect of the Anti-herpesvirus Drug 5-Methoxymethyl-2'-Deoxyuridine on the Immune Response *In vivo*. Canadian Journal of Microbiology, 23: 1059-1061.

Grewal, A.S., Rouse, B.T. and Babiuk, L.A. 1976. Mechanism of Resistance to Herpesviruses: A Comparison of the Effectiveness of Different Cell Types at Mediating Antibody Dependent Cell-Mediated Cytotoxicity. Infection and Immunity, 15: 698-703.

Rouse, B.T. and Babiuk, L.A. 1977. The Direct Antiviral Cytotoxicity by Bovine Lymphocyte is Not Restricted by Genetic Incompatibility of Lymphocytes and Target Cells. Journal of Immunology, 118: 618-624.

Wardley, R.C., Rouse, B.T. and Babiuk, L.A. 1976. Lymphocyte Cell Activation by Cell Separation Procedures. Immunological Communication, 5: 637.

Wardley, R.C., Rouse, B.T. and Babiuk, 1976. Observation on Recovery Mechanisms from Feline Viral Rhinotracheitis. Canadian Journal of Comparative Medicine, 40: 257-264.

Babiuk, L.A. and Rouse, B.T. 1976. Immune Interferon Production by Lymphoid Cells: Role in the Inhibition of Herpesvirus. Infection and Immunity, 13: 1567-1578.

Rouse, B.T., Wardley, R.C. and Babiuk, L. 1976. Antibody Dependent Cytotoxicity in the Bovine - A Comparison of Effector Cell Activity Against Heterologous Erythrocyte and Herpesvirus Infected Bovine Target Cells. Infection and Immunity, 13: 1433-1441.

Grewal, A.S., Rouse, B.T. and Babiuk, L.A. 1976. Erythrocyte Rosettes. A Marker for Bovine T Cells. Canadian Journal of Comparative Medicine, 40: 298-305.

Wardley, R.C., Rouse, B.T. and Babiuk, L.A. 1976. The Mammary Gland of the Ox: A Convenient Source for the Repeated Collection of Neutrophils and Macrophages. Journal of the Ret. End. Society, 19: 29-36.

Babiuk, L.A. and Rouse, B.T. 1976. Ribonucleotides in Infectious Bovine Rhinotracheitis DNA. Journal of General Virology, 31: 221-230.

Babiuk, L.A., Meldrum, B., Gupta, V.S. and Rouse, B.T. 1975. A Comparison of the Antiviral Effects of 5-Methylmethoxydeoxyuridine with 5-Diododeoxyuridine, Cytosine Arabinoside and Adenine Arabinoside. Anti-Microbial Agents and Chemotherapy, 8: 643-750.

Babiuk, L.A. and Rouse, B.T. 1975. Effect of Anti-Herpesvirus Drugs on Human and Bovine Lymphoid Functions *in vitro*. Infection and Immunity, 12: 1281-1289.

Spence, L., Fauvel, M., Bouchard, S., Saunders, J.R. and Babiuk, L.A. 1975. Test for Orbivirus Infection. Lancet, 11: 322.

Babiuk, L.A., Wardley, R.C. and Rouse, B.T. 1975. Defense Mechanisms Against Bovine Herpesviruses: Relationship of Virus-Host Cell Events to Susceptibility to Antibody-Complement Lysis. Infection and Immunity, 12: 958-963.

Fauvel, M., Babiuk, L.A., Sheaff, E.T. and Spence, L. 1975. Preparation of Dane Core (Hepatitis B) Antigen for Use in the Immune Electron Microscope Test. Canadian Journal of Microbiology, 21: 905-910.

Rouse, B.T. and Babiuk, L.A. 1975. Defense Mechanism Against Infectious Bovine

Apr-05

Rhinotracheitis Virus IV. Inhibition of Virus Infection by Murine Macrophages. *Infection and Immunity*, 11: 505-511.

Rouse, B.T. and Babiuk, L.A. 1975. Host Defense Mechanism Against Bovine Rhinotracheitis Virus II. Inhibition of Viral Plaque Formation by Immune Peripheral Blood Lymphocytes. *Cellular Immunology*, 43:46.

Fauvel, M., Babiuk, L.A., Sheaff, E.T. and Spence, L. 1975. Preparation of Dane Core (Hepatitis B) Antigen for Use in the Immune Electron Microscope Test. *Hepatitis Scientific Memorandum*.

Rouse, B.T. and Babiuk, L.A. 1974. Host Defense Mechanism Against Bovine Rhinotracheitis Virus III. Isolation and Immunological Activities of Bovine T lymphocytes. *Journal of Immunology*, 113: 1391-1398.

Rouse, B.T. and Babiuk, L.A. 1974. Host Defense Mechanism Against Infectious Bovine Rhinotracheitis Virus I. *In vitro Stimulation of Sensitized Lymphocytes by Virus Antigen*. *Infection and Immunity*, 10: 681-687.

Babiuk, L.A. and Hudson, J.B. 1973. Replication of Polyoma Virus in Mouse-Hamster Heterokaryon. *Canadian Journal of Microbiology*, 19: 299-301.

Hudson, J.B., Babiuk, L.A., Kohse, L.M., Wong, T.S. and Yoshizawa, C. 1973. The Synthesis of Viral and Cellular DNA in Mammalian Cells Exposed to Polymoma Virus. *Arch. Ges. Virusforsch.*, 38: 306-318.

Babiuk, L.A. and Hudson, J.B. 1972. Integration of Polyoma Virus DNA into Mammalian Genomes. *Biochem. Biophys. Res. Comm.*, 47: 111-118.

Cook, G.J., Babiuk, L.A. and Hudson, J.B. 1972. Cell Fusion Properties of Sendai Virus Prepared by Polyethylene Glycol Precipitation. *Canadian Journal of Microbiology*, 18: 607-610.

Spencer, J.F.T., Babiuk, L.A. and Morrall, R.A.A. 1971. Yeasts of the Matador Soils of Saskatchewan and Their Ability to Use Flavanoids. *Canadian Journal of Microbiology*, 17: 1249-2250.

Babiuk, L.A. and Paul, E.A. 1970. The Use of Fluorescein Isothiocyanate in Determining the Bacterial Biomass of a Grassland Soil. *Canadian Journal of Microbiology*, 16: 47-62.

CONTRIBUTED PAPERS IN PUBLISHED CONFERENCE PROCEEDINGS AND ABSTRACTS

Babiuk, L.A. 2004. DNA vaccination: Applications and challenges. 7th International Veterinary Immunology Symposium. Quebec City, QC July 25-30 Abstract CO.8.2

Babiuk, L.A., 2004. Development of a SARS vaccine. ASV SARS Symposium. Montreal, QC. July 14.

Zheng, C., Brownlie, R., Huang, Y., Babiuk, L.A., van Drunen Littel-van den Hurk, S. 2004. Intercellular trafficking of the major tegument protein VP22 of bovine herpesvirus-1 and its application to improve a DNA vaccine. 23rd Annual Meeting of American Society for Virology. Montreal, QC July 10-14. Abstract W4503.

Oumouna, M., Mapletoft, J., Karvonen, B., Babiuk, L.A., van Drunen Littel-van den Hurk, S. 2004. Effects of CpG oligodeoxynucleotides (ODN) adjuvants on immune responses

Apr-05

and protection induced by bovine respiratory syncytial virus (BRSV) formalin inactivated (FI) or commercial killed vaccines (KV). 23rd Annual Meeting of American Society for Virology. Montreal, QC July 10-14. Abstract W52-3

Babiuk, L.A. 2004. Animal models for evaluation of human and veterinary therapeutics. 31st Annual Meeting and Exposition of the Controlled Release Society. Honolulu, HI June 15

Babiuk, L.A. 2004. Novel vaccine formulations and delivery methods. CSPS 7th Annual Symposium. Vancouver, BC June 9-12

Babiuk, L.A. Vaccine development for Hep C. 2nd Canadian Conference on Hepatitis C. March 27-31, 2004. Vancouver, BC.

Gomis, S., Babiuk, L.A., Waters, E., Willson, P., Allan, B., and Hecker, R. 2004. Protection of neonatal chicks against a lethal challenge of *E. coli* by *in ovo* delivery of oligonucleotides containing CpG motifs (CpG ODN). AAAP/AVMA Conference July 2004.

Babiuk, L.A. 2004. Vaccine development, formulation and delivery to control zoonotic infections. Int. Symposium of Control of Zoonosis. 2004. Tsukuba, Japan. Feb. 12. Abstract No. 12.

Pontarollo, R.A., Horsman, B., Lai, K., Wilson, H.L., Hokamp, K., Brinkman, F., Potter, A.A., Babiuk, L.A., and Abrahamsen, M.S. 2004. Development of an oil-based micro-array for expression studies in poultry. Plant and Animal Genomes XII. San Diego, CA Jan. 10-14

Babiuk, L.A. 2003. Novel vaccine formulation and delivery methods. New approaches in molecular biotechnology for biomedicine. Austria. Nov. 22-25.

Babiuk, L.A. 2003. Veterinary vaccine development and formulation. Viral vaccine meeting. Barcelona, Spain. Oct. 25-28. Abstract VI-1.

Gomis, S., Babiuk, L.A., Waters, E., Willson, P., Allan, P.J., Hecker, R., and Potter, A.A. 2003. Stimulation of the innate immune system of broiler chicks with DNA oligonucleotides containing CpG motifs (CpG DNA). Presented at the Western Meeting of Poultry Clinicians and Pathologists-West Vet 14. Lake Louise, AB, September 30.

Bakare, D., Popowych, Y., Beskorwayne, T., Bowdish, D., Dullaghan, E., Rawlyk, N., Wilson, H., Jalal, S., Aich, P., Hancock, B., Potter, A., Babiuk, L.A., and Griebel, P.J. 2003. Alteration of gene expression in bovine monocytes following stimulation with lipopolysaccharide and cationic antimicrobial peptide. 1st Annual General Meeting, Functional Pathogenomics for Mucosal Immunity, Genome Canada. Saskatoon, SK, August 27-28.

Kaushik, R.S., Begg, A.A., Beskorwayne, T.K., Popowych, Y., Moorlehem, E.V., Jalal, S., Potter, A., Babiuk, L.A., Wilson, H.L., Griebel, P.J., and Aich, P. 2003. Gene expression pattern in primary fetal bovine intestinal epithelial cells following bovine rotavirus infection. 1st Annual General Meeting, Functional Pathogenomics for Mucosal Immunity, Genome Canada.

Apr-05

Saskatoon, SK, August 27-28.

Kaushik, R.S., Begg, A.A., Lancto, C., Abrahamsen, M.S., Wilson, H.L., Potter, A., Babiuk, L.A., Aich, P., and Griebel, P.J. 2003. Establishment and characterization of primary cultures of bovine fetal ileal and jejunal epithelial cells and jejunal fibroblasts. 1st Annual General Meeting, Functional Pathogenomics for Mucosal Immunity, Genome Canada. Saskatoon, SK, August 27-28.

Sampathkumar, B., Carrillo, C., Willson, P., Nash, J., Potter, A., Babiuk, L.A., and Allan, B. 2003. Comparative Proteomic and Genomic Analysis of *Campylobacter jejuni*:NCTC 11168 Grown on Agar and in Broth. 1st Annual General Meeting, Functional Pathogenomics for Mucosal Immunity, Genome Canada. Saskatoon, SK, August 27-28. Poster.

Sampathkumar, B., Van Moorleham, E., Willson, P., Potter, A., Babiuk, L.A., and Allan, B. 2003. Comparative Genomic Analysis of Caco-2 Cells Co-Cultured with an Invasive and a Non-Invasive Strain of *Campylobacter jejuni*. 1st Annual General Meeting, Functional Pathogenomics for Mucosal Immunity, Genome Canada. Saskatoon, SK, August 27-28. Poster.

Willson, P., Sampathkumar, B., Mirakhur, K., Mace, E., Reiman, C., Gomis, S., Babiuk, L.A., Potter, A., and Allan, B. 2003. *Campylobacter jejuni*: Development of a colonization model for Pathogenomics Studies in Poultry. 1st Annual General Meeting, Functional Pathogenomics for Mucosal Immunity, Genome Canada. Saskatoon, SK, August 27-28. Poster.

Wilson, H.L., Hurk, J.V.D., Begg, A.A., Moorlehem, E.V., Potter, A., Babiuk, L.A., Griebel, P.J., and Aich, P. 2003. Development of Enteric Models for Bovine Rotavirus and Coronavirus infections in young calves. 1st Annual General Meeting, Functional Pathogenomics for Mucosal Immunity, Genome Canada. Saskatoon, SK, August 27-28.

Wilson, H.L., Popowych, Y., Jalal, S., Bakare, A., Manuja, A., Babiuk, L.A., Potter, A., Abrahamsen, M.S., Aich, P., and Griebel, P.J. 2003. Magnetic activated cell sorting of bovine monocytes using CD14 monoclonal antibody and effects on differential gene expression. 1st Annual General Meeting, Functional Pathogenomics for Mucosal Immunity, Genome Canada. Saskatoon, SK, August 27-28.

Manoj, S., Griebel, P.J., Babiuk, L.A., and van Drunen-Littel-van den Hurk, S. 2003. Immune responses induced in cattle by biojector-mediated delivery of DNA vaccine encoding chimeric bovine herpesvirus-1 glycoprotein D (BHV-1 gD) and bovine CD154. 28th International Herpesvirus Workshop. Madison, WI, July 15-18.

Moshynskyy, I., Perez-Casal, J., Babiuk, L.A., and Potter, A.A. 2003. A role of the lactoferrin binding protein of *Streptococcus uberis*. 2003 CBDN Meeting. Calgary, AB.

Gomis S., Babiuk L., Thrush T., Waters E., Willson P., Allan B., Hecker, R., and Potter, A. 2003. Stimulation of the innate immune system of broiler chicks with DNA oligonucleotides containing CpG motifs (CpG-DNA) against a lethal challenge of *E. coli*. 13th Congress of World Veterinary Poultry Association/American Association of Avian Pathologists/American.

Apr-05

Veterinary Medical Association. Denver, CO, July 19-23.

Babiuk, L.A. 2003. Novel approaches to vaccination. 3rd International Veterinary Vaccines and Diagnostic Conference. Guelph, ON. July 13-18. Plenary 1,1.

Dar, A., Munir, S., Kapur, V., Goyal, S., Patnayak, D., Visvanathan, S., Herzog, K., Griebel, P., Tikoo, S.K., Potter, A., and Babiuk, L.A. 2003. Host gene expression profiles in response to avian viral respiratory infection in-vivo and in-vitro. 22nd Annual Meeting of American Society of Virology. Davis, CA, July 12-16.

Babiuk, L.A. 2003. Rational Design of Vaccines and Immunomodulators. NRC Genome Sciences Conference. Saskatoon, SK Aug. 20-23. Abstract No. 20.

Gornis, S., Babiuk, L.A., Thrush, T., Waters, E., Wilson, P., Allan, B., Hecker, R., and Potter, A. 2003. Protection of chickens against Escherichia coli infections by a vaccine containing CpG motifs. Modern Vaccines, Adjuvants, and Delivery Systems. Dublin, Ireland. June 4-6. Abstract PA-29.

Nichani, A., Kaushik, K., Popowych, Y., Dent, D., Townsend, H., Mutwiri, G., Hecker, R., Babiuk, L.A. and Griebel, P. 2003. CpG oligodeoxynucleotides induce antiviral effector molecules in sheep. 3rd International Veterinary Vaccines and Diagnostics, Guelph, Canada July 13-18.

Babiuk, L.A., Gornis, S., Hecker, R., Mutwiri, G., and van den Hurk, S. Modulating immune and innate immune responses with CpG oligodeoxynucleotides. 2003. Modern Vaccines and Delivery systems. Dublin, Ireland, June 4-6.

Gerdts, V., Korzeniowski, J., Foley, J., Babiuk, L.A., and Griebel, P.J. 2003. Regionalization of intestinal immunity in sheep. Abstract #72; 17th Spring Meeting of the Canadian Society for Immunology. Lake Louise, AB, March 28-31.

Nichani, A.K., Mena, A., Popowych, Y., Dent, D., Townsend, H., Hecker, R., Babiuk, L.A. and Griebel, P.J. 2003. *In vivo* immunostimulatory effects of a CpG oligodeoxynucleotide in cattle and sheep. Poster presented at 42nd Midwinter Conference of Immunologists. Pacific Grove, CA, January 25-28.

Tsang, C.H., Gerdts, V., Babiuk, L.A., and Griebel, P.J. 2003. In utero oral DNA immunization during the second trimester: induction of responses in pre-immune lambs. Keystone Symposia: Immunologic Tolerance. Snowbird, UT, Jan 7-13.

Babiuk, L.A. 2002. DNA vaccination methodologies. Stanier Symposium. Vancouver, BC Nov. 22.

Babiuk, L.A. 2002. Novel vaccine delivery methods. National Immunization Strategy Meeting. Dec. 1-3. Victoria, BC

Apr-05

Pontarollo,, R., van Drunen Littel-van den Hurk, S., Babiuk, L.A., Hecker, R., Cockle, P., Whelan, A., Hewinson, G., and Vordermeier, M. 2002. DNA Immunization against Bovine Tuberculosis in Cattle with CpG-defined Plasmid Vectors. *DNA Vaccines 2002*. October 23-25, Edinburgh, Scotland.

Manoj, S., Griebel, P.J., Babiuk, L.A., van Drunen Littel-van den Hurk, S. 2002. Targeting DNA vaccines using bovine CD154. *Keystone Symposia*. Breckenridge, CO.

Gerdts, V., Snider, M., Brownlie, R., Babiuk, L.A., and Griebel, P.J. 2002. DNA vaccination of the fetus: a new approach for the prevention of vertical disease transmission. Abstract #1; *DNA Vaccines*. Edinburgh, UK, October 23-25.

Mutwiri, G.K., Babiuk, L.A., Hecker, R., Thrush, T., Kaushik, R.S., and Griebel, P. 2002. CpG DNA enhances mucosal immune responses to an antigen administered at a different mucosal site. *11th International Congress on mucosal immunology*. Orlando, Florida, USA.

Alcon, V., Vega-Lopez MA, Willson, P., Gomis, S., Hecker, R., Foldvari, M., and Baca-Estrada, M. 2002. Combination of CpG-DNA and Biphasix™ - Vaccine Targetting Adjuvant (VTA-2) promotes strong systemic and mucosal immune responses after subcutaneous and intranasal immunization in a swine model. *11th International Congress on mucosal immunology*. Orlando, Florida, USA.

Mookherjee, N., Griebel, P., Brownlee, R., Mutwiri, G., Hecker, R., and Babiuk, L.A. 2002. Characterization of Toll-like receptor 9 from various mammalian species. *7th International Symposium on dendritic cells*. Bamberg, Germany.

Babiuk, L.A. 2002. Novel approaches to vaccine development. *International Congress of Parasitology*. Abstract PL3-02.

Hodgins, D.C., Yoo, D., Shewen, P.E., and Babiuk, L.A. Oral vaccination of colostrum-deprived calves with a recombinant bovine adenovirus expressing the HE protein of bovine coronavirus.

Kulshreethra, V., Baibuk, L.A., and Tikoo, S.K. 2002. Molecular characterization of 33K protein of bovine adenovirus-3. *21st Annual Meeting of American Society for Virology*. Lexington, KY. July 20-24, 2002. Abstract P21-2.

Li, X., Babiuk, L.A., and Tikoo, S.K. 2002. Construction and characterization of early region 4 modified porcine adenovirus type 3. *21st Annual Meeting of American Society for Virology*. Lexington, KY. July 20-24, 2002. Abstract W1-7.

Babiuk, L.A. 2002. Future Trends in the Discipline of Microbiology. *52nd Annual Meeting of the Canadian Society of Microbiologists*. Saskatoon, SK. Abstract No. S2

Babiuk, L.A. 2002. Modulating Immune Responses with CpG Oligonucleotides. *Third World Congress on Vaccines and Immunization*. Opatija Adriatic Riviera, Croatia. Abstract

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No.S2-5

Babiuk, L.A. 2002. Induction of Immune Responses by DNA Vaccines in Large Animals. Third World Congress on Vaccines and Immunization. Opatija Adriatic Riviera, Croatia. Abstract No. PS3-7

Babiuk, L.A. 2002. Control of Bovine Herpesvirus Diseases. Fifth Annual Conference on Vaccine Research. Baltimore, Maryland.

Manoj, S., Griebel, P.J., Babiuk, L.A., van Drunen Little-van den Hurk, S. 2002. Targetting DNA vaccines using bovine CD154. Keystone Symposia. Breckenridge, CO.

Babiuk, S., Baca-Estrada, M., Foldvari, M., Baizer, L., Stout, L., Rabussay, D., Widera, G., and Babiuk, L.A. 2002. Improving the Efficacy of intradermal DNA vaccination by non-invasive electroporation in large animals. Keystone Symposia. Breckenridge, CO.

Widera, G., Rabussay, D., Babiuk, S., Baca-Estrada, M., Foldvari, M., and Babiuk, L.A. 2002. In vivo electroporation: A method to improve the efficacy of intramuscular DNA vaccination in large animals. Keystone Symposia. Breckenridge, CO.

Pontarollo, R., Aich, P., Yu, H., van Drunen Little-van den Hurk, S., Babiuk, L.A. 2002. Methodologies for Vaccinating Individuals Against Hepatitis C Using DNA/Protein-based Vaccination Regime. CANVAC Meeting, St. Adele, QC. Abstract No. 2.1.1.

Babiuk, S., Baca-Estrada, M., Foldvari, M., Baizer, L., Stout, R., Rabussay, D., Widera, G., and Babiuk, L.A. 2002. Electroporation Improves the Efficacy of DNA Vaccines Administered in the Skin and Muscle in Large Animals. CANVAC Meeting, St. Adele, QC. Abstract No. 2.1.2

Gerdts, V., Snider, M., Brownlie, R. Babiuk, L.A., and Griebel, P.J. Immunological lessons *in utero*: the induction of mucosal immunity and immune memory. German Society for Immunology. Hannover, Germany.

Huang, D.Y., Karvonen, B., Baca-Estrada, M., Snider, M., Babiuk, L.A., and van Drunen Littel-van den Hurk, S. 2001. Identification of CTL epitopes on BHV-1 glycoprotein B. 26th International Herpesvirus Workshop, Regensburg, Germany.

Baxi, M.K., Robertson, J., Babiuk, L.A., and Tikoo, S.K. 2001. Characterization of early region 4 mutants of bovine adenovirus type 3. 20th Annual Meeting for American Society for Virology. Madison, WI. July21-25, 2001. Abstract W35-12.

Li, X., Baxi, M., Babiuk, L.A., and Tikoo, S.K. 2001. Characterizatiopn of early region 4 of porcine adenovirus type 3. 20th Annual Meeting for American Society for Virology. Madison, WI. July21-25, 2001. Abstract P30-1.

Kaushik, R.S., Beskorwayne, T., Popowych, Y., Babiuk, L.A., and Griebel P. 2001.

Apr-05

Generation and characterization of monoclonal antibodies against epithelial cells of the small intestine of sheep. 6th International Veterinary Immunology Symposium, July 15-20, 2001. Uppsala, Sweden.

Loehr, B.I., Rankin, R., Pontarollo, R., King, T., Willson, P., Babiuk, L.A., and van Drunen Littel-van den Hurk, S. 2001. Suppository-mediated DNA immunization induces mucosal immunity against herpesvirus infection in cattle. 26th International Herpesvirus Workshop, Regensburg, Germany.

Moshynskyy, I., Fontaine, M., Perez-Casal, J., Babiuk, L.A., and Potter, A.A. 2001. Construction of *Streptococcus uberis* mutants unable to bind bovine lactoferrin by allele replacement. CBDN Annual Meeting, Canmore, AB, May 12-15, 2001.

Mutwiri, G.K., Bowersock, T., Kidane, A., Sanchez, M., Gerdts, V., Babiuk L.A., and Griebel, P. 2001. Enteric immunization with antigen encapsulated in alginate microspheres. 6th International Veterinary Immunology Symposium, Uppsala, Sweden, July 15-20, 2001.

Pontarollo, R., Rankin, R., Babiuk, L.A., Godson, D., Griebel, P., Hecker, R., Krieg, A., and van Drunen Littel-van den Hurk, S. 2001. Identification of a bovine immunostimulatory CpG motif and characterization of responding cell populations. 6th International Veterinary Immunology Symposium. July 15-20, 2001, Uppsala, Sweden.

Rankin, R., Pontarollo, R., Iannou, X., Krieg, A.M., Hecker, R., Babiuk, L.A., and van Drunen Littel-van den Hurk, S. 2001. CpG motif identification for veterinary species demonstrates that sequence recognition is highly conserved. 26th International Herpesvirus Workshop, Regensburg, Germany.

Stocki, S., Babiuk, L.A., Rawlyk, N., Potter, A.A., and B. Allan. 2001. Subtractive hybridization for the identification of DNA sequences unique to avian *Escherichia coli*. Canadian Society of Microbiologists Annual Meeting, Waterloo, ON, June 10-13, 2001.

Stocki, S.L., Babiuk, L.A., Rawlyk, N., Potter, A.A., and Allan, B.J. 2001. Characterization of novel sequences in avian *Escherichia coli* strains. CBDN Annual Meeting, Canmore, AB, May 12-15, 2001.

Gerdts, V., Babiuk, L.A., Griebel, P. 2001. *In utero* DNA vaccination induces protective immunity. Can. Soc. Immunol. Meeting. Lake Louise, AB. Abstract No. 70.

Gerdts, V., Babiuk, L.A., and Griebel, P. 2000. "Gut-loop" as a model to develop oral veterinary vaccines. European Federation of Immunological Sciences (EFIS) Satellite Workshop: Infectious Immunity and Vaccines, Kazimierz Dolny n. Wilsa, Poland.

Gerdts, V., Babiuk, L.A., van Drunen Littel-van den Hurk, S., and Griebel, P.J. 2000. Fetal immunization by a DNA vaccine delivered orally into the amniotic fluid. 14th European Immunology Conference, Poznan, Poland.

Apr-05

Baxi, M.K., Deregt, D., Robertson, J., Babiuk, L.A., and Tikoo, S.K. 2000. Recombinant bovine adenovirus-3 expressing bovine viral diarrhea virus glycoprotein E2 generates immune response in cotton rats. 19th Annual American Society for Virology Meeting. Fort Collins, CO. July 8-12, 2000.

Weingartl, H.M., Pasick, J., Sabara, M., van Moorlehem, E., and Babiuk, L.A. 2000. Development, partial characterization, and virus susceptibility of immortalized porcine alveolar macrophages. 19th Annual American Society for Virology Meeting. Fort Collins, CO. July 8-12, 2000.

Zhang, L., Babiuk, L.A., and Tikoo, S.K. 2000. Monitoring foreign gene expression in the E3 region of BAV type 3. 19th Annual American Society for Virology Meeting. Fort Collins, CO. July 8-12, 2000.

Zhou, Y., Reddy, P.S., Babiuk, L.A., and Tikoo, S.K. 2000. Bovine adenovirus type 3 (BAV-3) E1B small protein is not essential for virus growth in fetal bovine retina cells (FBRC). 19th Annual American Society for Virology Meeting. Fort Collins, CO. July 8-12, 2000.

Liu, Q. and Babiuk, L.A. 2000. The ORF2 of PCVII encodes a nuclear protein with immunoreactivity to PMWS pig serum. 19th Annual American Society for Virology Meeting. Fort Collins, CO. July 8-12, 2000.

Loehr, B.I., Babiuk, L.A., van Drunen Littel-van den Hurk, S. 2000. Genital mucosal of cattle as DNA immunization site. European Society of Veterinary Virology. P138. Brescia, Italy. August.

Rankin, R., Griebel, P., King, T., Babiuk, L.A., and van Drunen Littel-van den Hurk, S. 2000. Oral DNA immunization in sheep. European Society of Veterinary Virology. P134. Brescia, Italy, August.

Babiuk, L.A. 2000. Induction of mucosal immunity by viral vectors and DNA immunization. Millennium Second World Congress on Vaccines and Immunization. S3-2. Leige, Belgium. Aug.

Babiuk, L.A. 2000. DNA vaccination of livestock: Potential benefits. Millennium Second World Congress on Vaccines and Immunization. P54-1. Leige, Belgium. Aug.

Babiuk, L.A. 2000. Modern Vaccines. Sustainable animal production: Animal Health and Welfare Workshop. Mariensee. September.

Babiuk, L.A. 2000. Development of more effective vaccines: Potential for use in disease eradication programs. International Workshop on Animal Disposal Alternatives. Winnipeg, MB. P4.

Potter, A., Baca-Estrada, M., Babiuk, L.A., and Finlay, B. 2000. New technologies and targets for veterinary vaccine development. International Veterinary Vaccines and Diagnostics

Apr-05

Conference, Oxford, England. 562.

Babiuk, L.A. 2000. DNA vaccination: From furry test tubes to real animals. Vaccines and Immunotherapeutics in the Third Millenium. Lorne, Australia. P1-1.

Babiuk, L.A. 2000. Adenoviruses as vectors for delivering vaccines to mucosal surfaces. Vaccines and Immunotherapeutics in the Third Millenium. Lorne, Australia. P4-1.

Babiuk, L.A. 2000. Polynucleotide vaccines: Potential for inducing immunity in animals. Proceedings of the International Veterinary Cytokine and Vaccine Conference. Tskuba, Japan. P7-12.

Babiuk, L.A. 2000. Adenoviruses as vectors for delivering vaccines to mucosal surfaces. Proceedings of the International Veterinary Cytokine and Vaccine Conference. Tskuba, Japan. P73-79.

Babiuk, L.A. 2000. Novel approaches to vaccination. Snowden Lecture. Australia Society of Microbiology Meeting. Cairns, Australia. PL004.

Babiuk, L.A. 2000. Future directions in improving animal health. Australia Society of Microbiology Meeting. Cairns, Australia. S33-1.

Baca-Estrada, M., Snider, M., Papp, Zs., Babiuk, L.A. 1999. Immune responses in the nasopharyngeal and palatine tonsils of sheep following intranasal immunization. 10th International Congress of Mucosal Immunology. Amsterdam, The Netherlands.

Baxi, M.K., Babiuk, L.A., Mehtali, M., and Tikoo, S.K. 1999. Characterization of E4 region of bovine adenovirus-3. XI International Congress of Virology. Sydney, Australia.

Baxi, M.K., Babiuk, L.A., Mehtali, M., and Tikoo, S.K. 1999. Characterization of early region 4 of bovine adenovirus-3. XI International Congress of Virology. Sydney, Australia.

Ewen, C., Foldvari, M., Badea, I., Babiuk, L.A., and Baca-Estrada, M.E. 1999. Transdermal delivery of vaccine antigens formulated in a novel lipid-based biphasic delivery systems induces Th2 immune responses. Canadian Society for Immunology. Lake Louise, AB.

Suradhat, S., Braun, R., Lewis, P.J., Babiuk, L.A., Baca-Estrada, M., and Griebel, P. 1999. Immunization with plasmids encoding antigen-complement C3d chimeras inhibited antigen-specific immune responses. Canadian Society for Immunology. Lake Louise, AB.

Tatlow, D., Brownlie, R., Babiuk, L.A., and P. Griebel. 1999. Genes expressed during the induction of a mucosal immune response. 13th Spring Meeting of the Canadian Society for Immunology. Lake Louise, AB

Apr-05

Tikoo, S.K., P.S. Reddy, L.A. Babiuk, and M. Mehtali. 1999. Replication-defective bovine adenovirus-3 as an expression vector. XI International Congress of Virology. Sydney, Australia Aug. 9-13, 1999.

Zakhartchouk, A.N., D.L. Godson, L.A. Babiuk and S.K. Tikoo. 1999. A 121R protein produced from E3 region of bovine adenovirus-3 inhibits cytolysis of mouse cells by human TNF α . 18th Annual meeting of the American Society of Virology. University of Massachusetts, Amherst, MA. USA.

van Drunen Littel-van den Hurk, S., Lewis, P.J., Braun, R.P. and Babiuk, L.A. 1998. Enhancing and modulating responses (BHV-1). Nucleic Acid Mediated Vaccines in Veterinary Medicine. Ames, IA, USA.

Mutwiri, G., Zakhartchouk, A., Tikoo, S.K., Babiuk, L.A., Godson, D., and Griebel, P. 1998. Induction of mucosal and systemic immunity in ruminants by subcutaneous injection of a bovine adenovirus-3 vaccine vector. Conference of Research Workers in Animal Diseases (CRWAD). Chicago, IL.

Reddy, P.S., Zakhartchouk, A., Baxi, M., Idamakanti, N., Pyne, C., Mutwiri, G., Babiuk, L.A., and Tikoo, S.K. 1998. Recombinant bovine adenovirus-3 for the induction of mucosal and systemic immune responses. Ludhiana, India.

Yoo, D., Parker, M.D., Cox, G.J., and Babiuk, L.A. 1998. Zinc-finger domain encoded in the open reading frame (ORF) 1b of the RNA polymerase gene of coronavirus. CSM Guelph, Ontario. Abstract No. Vp5.

Zakhartchouk, A.N., Reddy, P.S., Baca-Estrada, M.E., Baxi, M.K., Papp, Z., Babiuk, L.A., and Tikoo, S.K. 1998. Mucosal immune responses induced by recombinant bovine adenoviruses expressing full length and truncated forms of bovine herpesvirus-1 glycoprotein gD. ASV Vancouver, BC. Abstract No. W9-10.

Babiuk, L.A. 1998. Mucosal Immunity: Induction by adenovirus vectors. IBC Third International Symposium on Veterinary Vaccines. Tampa, Florida, Feb. 5-6.

Reddy, P.S., M.K. Baxi, J.B. Lee, N. Idamakanti, A.N. Zakhartchouk, C. Pyne, L.A. Babiuk and S. K. Tikoo. 1997. Determination and analysis of the complete nucleotide sequence of bovine adenovirus 3. 16th Annual Meeting of ASV, Montana, USA.

Baxi, M.K., J.B. Lee, C. Pyne, P.S. Reddy, A.N. Zakhartchouk, L.A. Babiuk and S.K. Tikoo. 1997. Identification and transcriptional analysis of bovine adenovirus 3 early region 4. 16th Annual Meeting of ASV, Montana, USA.

Idamakanti, N., P.S. Reddy, L.A. Babiuk and S.K. Tikoo. 1997. Transcriptional map of bovine adenovirus-3 early region-3. 16th Annual Meeting of ASV, Montana, USA.

Zakhartchouk, A.N., C. Pyne, P.S. Reddy, M.K. Baxi, U.B. Rasmussen, V. Meyer, M.

Apr-05

Mehtali, L.A. Babiuk and S.K. Tikoo. 1997. Development of bovine adenovirus-3 vectors based on E3 region deletion. 16th Annual Meeting of ASV, Montana, USA.

Babiuk, L.A., Tikoo, S., Reddy, S., Baxi, M. and Zakhartchouk, A. 1997. Novel approaches to vaccine development and delivery. International Workshop on Application of Biotechnology for Animal Health. Korea. pp. 29-48.

Babiuk, L.A. 1997. Novel approaches to vaccine development. 10th International Serbian Veterinary Congress. Zlatobor. Sept. 16-20.

Babiuk, L.A., Lewis, P.J., Braun, R. and van Drunen Littel-van den Hurk, S. 1997. Polynucleotide Vaccines: Potential for inducing immunity in animals. New Approaches to Vaccine Development Conference. Vienna. Dec. 4-6.

Laakel, M., Hebert, B., Babiuk, L.A. and Tijssen, P. 1997. Porcine parvovirus tropism in novel immortalized TV cell lines. VIIth International Parvovirus Workshop. Heidelberg, Germany. p 67.

Babiuk, L.A. 1997. New approaches to the Development of Veterinary Vaccines. Proc. 47th Annual Meeting of the Can. Soc. Animal Science. July 24-26. P. 163-174.

Babiuk, L.A., Lewis, P.J., Braun, R., van Drunen-Littel van den Hurk, S. 1997. Polynucleotide Vaccines: Potential for inducing immunity in animals. 1st Int. Vet. Vaccines & Diagnostics Conference. July. Madison. S82.

Yoo, D., Gibbons, E., and Babiuk, L.A. 1997. Colostral neutralization elicited by maternal immunization of pregnant cattle with the recombinant VP8 protein of bovine rotavirus and the recombinant S2 fragment of bovine coronavirus. 1st Int. Vet. Vaccines & Diagnostics Conference. July. Madison. PZZ.

Van Drunen Littel-van den Hurk, S., P.J. Lewis, S.K. Tikoo, M.E. Baca-Estrada, R. Braun, and L.A. Babiuk. 1996. Efficacy of polynucleotide immunization against bovine herpesvirus-1 in cattle. Keystone symposium on cell biology of virus entry, replication and pathogenesis. St. Fe., NM, USA.

Yoo, D., Gibbons, E., Lee, J. and Babiuk, L.A. 1996. A new approach to control of viral enteritis in neonatal calves. 46th Annual Canadian Society of Microbiology. Charlottetown, Canada, No. SYC7.

Khattar, S.K., van Drunen Littel-van den Hurk, S., Attah-Poku, S.K., Babiuk, L.A. and Tikoo, S.K. 1996. Identification and characterization of proteins encoded by bovine herpes virus-1 UL1 and UL22 genes. American Society for Virology. London, Canada, No. W11-9.

Suradhat, S., Yoo, D. and Babiuk, L.A. 1996. DNA immunization with bovine rotavirus VP4 gene induces a Th1-like immune responses in mice. American Society for Virology. London, Canada, No. Ws7-7.

Apr-05

Reddy, S., Babiuk, L.A. and Tikoo, S.K. 1996. Transcriptional MAP of bovine adenovirus-3 early region 1. American Society for Virology. London, Canada, No. W31-7.

Papp, Z., Middleton, D.M., Babiuk, L.A. and Baca-Estrada, M.E. 1996. Effect of mucosal immunization with recombinant adenovirus vectors on the protection of cotton rats against bovine herpesvirus type 1 infection. American Society for Virology. London, Canada, No. P19-9.

Babiuk, L.A. 1995. Immunology of bovine herpesvirus infection. Symposium on IBR and other ruminant herpesvirus infections. ESVV. Leige, Belgium, July.

Babiuk, L.A. 1995. Polynucleotide Immunization. New opportunities for controlling infectious diseases. In: Molecular Approaches to the Control of Infectious Diseases. Sept. CSH. Abstract No. 9.

Babiuk, L.A. 1995. New approaches in the development of veterinary vaccines. XXV World Veterinary Congress. Yokohama. Sept. SY2.3.

Babiuk, L.A., van Drunen Littel-van den Hurk, S., Liang, X., and Tikoo, S. 1995. Novel approaches controlling viral infections. 4th Int. Vet. Immunol. Symposium, July, Davis. Abstract No. 27.

Babiuk, L.A. 1995. Trends in vaccination: Infectious agents and ectoparasites. Advances in biotechnologia. Habanna 95. No. S1.1.

Babiuk, L.A. 1995. Control of bovine herpesvirus infections: Polynucleotide immunization. New York Acad. Sciences. April. Abstract No. 7.

Khattar, S., van Drunen Littel-van den Hurk, S., Attah-Poku, S., Babiuk, L.A. and Tikoo, S.K. 1995. Identification and characterization of a novel bovinenherpesvirus-1 (BHV-1) glycoprotein gL. 76th Annual Conference of Research Workers in Animal Diseases. Chicago, USA.

van Drunen Littel-van den Hurk, S., Tikoo, S.K., Potter, A., Babiuk, L.A. and Van Donkersgoed, J. 1995. Induction of humoral and cellular immunity to BHV-1 in cattle by immunization with a gD polynucleotide vaccine. 20th International Herpesvirus Workshop. Groningen. The Netherlands.

Baca-Estrada, M., Snider, M., Harland, R., Babiuk, L.A. and van Drunen Littel-van den Hurk, S. 1995. The effect of antigen form of bovine herpesvirus-1 gD on the induction of cellular and humoral immune responses. 9th International Congress of Immunology. San Francisco, USA.

van Drunen Littel-van den Hurk, S., Baca-Estrada, M.E., Snider, M., Harland, R. and Babiuk, L.A. 1995. Immunogenicity of bovine herpesvirus-1 glycoprotein D in mice: Effect of antigen form on the induction of cellular and humoral immune responses. Symposium on IBR

Apr-05

and other ruminant herpesvirus infections. Liege, Belgium.

Lee, J.B., Babiuk, L.A., Harland, R., Gibbons, E., Elazhary, Y. and Yoo, D. 1995. Immunological responses to recombinant VP8 subunit protein of bovine rotavirus in pregnant cattle. ASV, Austin, Texas. July 8-12.

Baca-Estrada, M.E., Liang, X., Babiuk, L.A. and Yoo, D. 1995. Hemagglutinin-esterase glycoprotein gene of bovine coronavirus delivered by adenovirus vector induces mucosal immunity in cotton rats. 1st International Rushmore Conference on Mechanisms in the Pathogenesis of Enteric Diseases. Rapid City, North Dakota. September 27-30.

Yoo, D., Babiuk, L.A., Harland, R, Gibbons, E., Elazhary, Y. and Lee, J. 1995. Maternal immunization of pregnant cows with recombinant VP8 protein of bovine rotavirus elicits neutralizing Colostral antibodies to multiple serotypes. 1st International Rushmore Conference on Mechanisms in the Pathogenesis of Enteric Diseases. Rapid City, North Dakota. September 27-30.

Liang, X.P., C. Pyne, L. A. Babiuk and J. Kowalski. A cell line expressing bovine herpesvirus 1 gD protein with a glycolipid membrane anchor supports growth of gD gene-deletion mutant. 19th International Herpesvirus Workshop. Vancouver, Canada. 1994

Yoo, D., Parker, M.D., Cox, G.J. and Babiuk, L.A. 1994. Primary structure of the second open reading frame ORF1b and characterization of the metal binding domain of the RNA polymerase gene of bovine coronavirus. 6th International Meeting on Corona- and Related Viruses. Quebec City, Quebec, Canada. August 27 - September 2.

Baranowski, E., Dubuisson, J., van Drunen Littel-van den Hurk, S., Babiuk, L.A., Michel, A., Pastoret, P.P. and Thiry, E. 1994. Synthesis and Processing of Bovine Herpesvirus-1 glycoprotein H. 3rd Congress of European Society of Vet. Viro. Interlaken, Switzerland. W2 -3.

Babiuk, L. A., van Drunen Littel-van den Hurk, Liang, X., and Tikoo, S.K., 1994. New developments in veterinary viral vaccines. The 7th International Conference of Comparative and Applied Virology, Montreal, Canada.

van Drunen Littel-van den Hurk, S., J. Van Donkersgoed, Godson, and L. A. Babiuk. 1994. A subunit gIV vaccine, produced in transfected mammalian cells in culture, induces protection against BHV-1 in cattle. 8th Annual Bovine Herpesvirus Workshop, Vancouver, Canada.

Li, Y., van Drunen Littel-van den Hurk, S., Babiuk, L. A. and Liang, X. 1994. Study of interaction of bovine herpesvirus-1 gB, gC and gD with permissive cells. The 19th International Herpesvirus Workshop. Vancouver, Canada.

Baranowski, E., Dubuisson, J., van Drunen Littel-van den Hurk, S., Babiuk, L.A., Michel, A., Pastoret, P. -P. and Thiry, E. 1994. Synthesis and processing of bovine herpesvirus-1 glycoprotein gH. The 19th International Herpesvirus Workshop, Vancouver, Canada.

Apr-05

van Drunen Littel-van den Hurk, S., Van Donkersgoed, J., Kowalski, J., van den Hurk, J.V., Godson, D. and Babiuk, L.A. 1994. A subunit gIV vaccine, produced in transfected mammalian cells in culture, induces protection against BHV-1 in cattle. 8th Annual Bovine Herpesvirus Workshop, Vancouver, Canada.

Babiuk, L.A. 1994. Do Vaccines Work? 3rd Congress of the European Society of Veterinary Virology. Interlaken, Switzerland, S 3-3.

Gavora, J.S., Roper, A.M., Mucha, J., Prochazka, R., Benkel, B., Nagai, J., Sabour, M.P., Babiuk, L.A., Falconer, M., and Turner, J. 1994. Introduction of resistance to bovine rotavirus by gene transfer. 5th World Congress on Genetics Applied to Livestock Production.

Yoo, D., Baca-Estrada, M., Liang, X. and Babiuk, L.A. 1994. Induction of mucosal and systemic immunity to hemagglutinin-esterase glycoprotein of bovine coronavirus by recombinant adenovirus in cotton rats. ASV Abstract W45-11.

Lee, J.B., Yoo, D., Redmond, M. and Babiuk, L.A. 1994. Characterization of the interaction between group A bovine rotavirus VP8 and receptors of MA-104 cells and RBS. ASV abstract W37-7.

Mittal, S.K., Prevec, L., Graham, F. and Babiuk, L.A. 1994. Development of a bovine adenovirus type 3-based expression vector. ASV abstract W22-3.

Roberts, T.E., Yoo, D., Breker-Klassen, M., Sorden, S. and Babiuk, L.A. 1994. Replication and pathogenesis of bovine parainfluenza virus type 3 in cotton rats, *Sigmodon hispidus*. ASV Abstract P19-7.

Ijaz, M.K., Longson, M., Sabara, M.I., Attah-Poku, S., Redmond, M.J., Parker, M.D. and Babiuk, L.A. 1994. Priming and induction of anti-rotavirus antibody response by synthetic peptides derived from VP7 and VP4.

Babiuk, L.A. 1994. Viral-bacterial synergy. HAP Conference Abstract KT5.

Liang, X.P. and L.A. Babiuk. Expression of glycoprotein gIII on BHV-1 virions via a glycolipid-based membrane anchor. 9th International Congress of Virology. Glasgow, Scotland. 1993.

Tikoo, S. K., Y. Popowych, M. Campos and L. A. Babiuk. 1993. Antigenic and structural properties of bovine herpesvirus-1 glycoprotein as defined by analysis of truncations and deletions expressed by recombinant vaccinia viruses, and synthetic peptides. IX International Congress of Virology, Glasgow, UK.

van Drunen Littel-van den Hurk, S., Kowalski, J., van den Hurk, J.V., Gilbert, S.A., Van Donkersgoed, J., Harland, R., Babiuk, L. A. and Zamb, T.J. 1993. A subunit gIV vaccine, produced in a non-destructive expression system, induces mucosal immunity against bovine

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herpesvirus-1 in cattle. Modern approaches of new vaccines. Cold Spring Harbour. USA. Nr.50.

van Donkersgoed, J., van Drunen Littel-van den Hurk, S., Harland, R.J., Kowalski, J., van den Hurk, J.V., Aitchison, B., Potter, A.A., Babiuk, L.A. and Zamb, T.J. 1993. Effectiveness of a subunit BHV-1 vaccine against experimentally induced IBR. 45th Annual Convention of the Canadian Veterinary Medical Association. Edmonton, Alberta, Canada. Nr.507.

Baca-Estrada, M.E., Yoo, D., Liang, X., and Babiuk, L.A. 1993. Mucosal immunization of cotton rats induces humoral and cellular immunity to a recombinant adenovirus. Novel Vaccine Strategies: Mucosal Immunization, Adjuvant and Genetic Approaches. Oct. 6-8. Bethesda, MD.

Babiuk, L.A. 1993. Immunobiology of cytokines - Their role in recovery from disease or immunopathology. Oct. 10. American Ageing Association Meeting. Abstract No. 22.

Babiuk, L.A. 1993. Bovine herpesvirus subunit and live vectored vaccines. CSM-SIM Joint Meeting. Toronto, Ontario. S84.

Babiuk, L.A. 1993. Bovine Respiratory Disease - Pathogenesis and control. CSM-SIM Joint Meeting. Toronto, Ontario. S22.

Babiuk, L.A. and Campos, M. 1993. Pathogenesis of bovine respiratory disease. Am. Assoc. Immunology, Denver, Colorado. Abstract 948.

Babiuk, L.A. 1993. Novel approaches to vaccine development. Genetic Engineering Research Institute. Taejun, Korea.

Babiuk, L.A. 1993. Novel approaches to vaccine development. Conf. on Biochemistry and Molecular Biology. Seoul National University. SY VII.

Babiuk, L.A. 1993. Adjuvants: Mode of action and their use in subunit vaccines. Symposium on Immunomodulation. 33: 62-93. Taejun, Korea.

Babiuk, L.A. 1993. The biology of cytokines. Gordon Conference. New London, N.H. Session 2.1.

van Drunen Littel-van den Hurk, S., Parker, M.D., Fitzpatrick, D.R., van den Hurk, J.V., Campos, M., Babiuk, L.A. and Zamb, T. J. 1992. Structural, functional and immunological characterization of bovine herpesvirus-1 glycoprotein I expressed by recombinant baculovirus. 17th International Herpesvirus Workshop. Edinburgh, Scotland. Nr. 246.

Campos, M., Hughes, H.P.A., Potter, A.A., Godson, D.L. and Babiuk, L.A. 1992. Cytokine-antigen chimeras: the good, the bad, and the better. 3rd International Veterinary Immunology Symposium. Budapest, Hungary. August.

Apr-05

Campos, M., Sordillo, L.M. and L.A. Babiuk. 1992. Role of biological response modifiers in disease control. *J. Dairy Sci.* 75 (Supplement 1): 217.

Sordillo, L.M., Campos, M., and Babiuk, L.A. 1992. Effects of recombinant granulocyte/macrophage colony stimulating factor on bovine peripheral blood and mammary gland neutrophil function. *J. Dairy Sci.* 75 (Supplement 1): 193.

Hughes, H.P.A., Campos, M., Potter, A.A., and Babiuk, L.A. 1992. Functional characteristics of cytokine-antigen chimeric proteins and their projected use in vaccine formulation. Canadian Society for Immunology Annual Meeting. Mont Rolland, Quebec. March.

Hughes, H.P.A., Campos, M., Potter, A.A., and Babiuk, L.A. 1992. Characterization and function of antigen-cytokine chimeras. FASEB Meeting. Anaheim, California. April.

Cox, G., Parker, M.D. and Babiuk, L.A. 1992. Bovine coronavirus: antigens and cell-mediated immunity. Bio-recognition: International Industrial Biotechnology Conference. Winner of International Graduate Student Presentation Award. Montreal, Quebec. June.

Cox, G., Parker, M.D. and Babiuk, L.A. 1992. Molecular and immunological characterization of recombinant bovine coronavirus proteins. The American Society for Virology 1992 Annual Meeting. Cornell University, Ithaca, New York, USA. July.

Pfeifer, C.G., Campos, M., Beskorwayne, T., Babiuk, L.A. and Potter, A.A. 1992. Effect of *Haemophilus somnus* on phagocytosis and hydrogen peroxide production by bovine polymorphonuclear leukocytes. UA/UC Meeting on Infectious Diseases. Kananaskis, Alberta. June.

Pontarollo, R., Babiuk, L.A. and Potter, A.A. 1992. Cloning and expression of a gene coding for a hemin-binding proteins of *Haemophilus somnus*. UA/UC Meeting on Infectious Diseases. Kananaskis, Alberta. June.

van Drunen Littel-van den Hurk, S., Parker, M.D., Fitzpatrick, D.R., van den Hurk, J.V., Campos, M., Babiuk, L.A. and Zamb, T.J. 1992. Structural, functional, and immunological characterization of bovine herpesvirus-1 glycoprotein I expressed by recombinant baculovirus. 17th International Herpesvirus Workshop. Edinburgh, Scotland. August.

Redmond, M.J., Ijaz, M.K., Parker, M.D., Sabara, M.K. and Babiuk, L.A. 1992. Assembly of recombinant rotavirus proteins into virus-like particles and assessment of vaccine potential. WHO Meeting on Enteric Diseases. Cambridge, United Kingdom. April.

Godson, D.L., Campos, M., Ellis, J.A., Haines, D.M., Rossi-Campos, A. and Babiuk, L.A. 1991. Development of a lymph node cannulation model to study virus-induced immunosuppression. 72nd Conference of Research Workers in Animal Disease, Chicago, Illinois, USA. November.

Apr-05

Campos, M., Bielfeldt-Ohmann, H., Rossi-Campos, A., Harland, R., Redmond, M., Cordeiro, D., Hughes, H.P.A. and Babiuk, L.A. 1991. Regulation of bovine acute phase responses by parenteral administration of tumor necrosis factor and interferon- α . 72nd Conference of Research Workers in Animal Diseases. Chicago, Illinois, USA. November.

Campos, M., Redmond, M.J., Harland, R., Cordeiro, D. and Babiuk, L.A. 1991. Acute phase proteins as predictors and prognosticators of disease. 72nd Conference of Research Workers on Animal Disease. Chicago, Illinois, USA. November.

Hughes, H.P.A., Campos, M., Godson, D.L., van Drunen Littel-van den Hurk, S., Zamb, T. and Babiuk, L.A. 1991. IL-2 treatment can enhance responses to small immunizing doses of antigen. 72nd Conference of Research Workers in Animal Disease. Chicago, Illinois, USA. November.

Hughes, H.P.A., Campos, M., Godson, D., van Drunen Littel-van den Hurk, S., Zamb, T. and Babiuk, L.A. 1991. IL-2 treatment can enhance responses to small immunizing doses of antigen. 72nd Conference of Research Workers in Animal Diseases. Chicago, Illinois, USA. November.

Hughes, H.P.A., Campos, M., Potter, A.A., van Drunen Littel-van den Hurk, S., Zamb, T. and L.A. Babiuk. 1991. Molecular chimeras or mixtures of interleukin-2 with antigen modulate antigen-specific responses by enhanced T-cell activation. 3rd International Workshop on Cytokines. Stresa, Italy. November.

Ijaz, M.K., Redmond, M.J., Attah-Poku, S.K., Dent, D. and Babiuk, L.A. 1992. A synthetic peptide from rotavirus VP4 blocks virus attachment and prevents rotavirus infection. WHO Meeting on Enteric Diseases. Cambridge, United Kingdom. April.

Orten, D.J., Xue, W., Abdelmagid, O.Y., Reddy, D.N., van Drunen Littel-van den Hurk, S., Blecha, F., Campos, M., Babiuk, L.A. and Minocha, H.C. 1991. Comparison of bovine immune response to affinity-purified bovine herpesvirus-1 anti-idiotypes and glycoproteins. 72nd Conference of Research Workers in Animal Disease. Chicago, Illinois, USA. November.

van Drunen Littel-van den Hurk and Babiuk, L.A. 1991. Protection of cattle from BHV-1 infection by immunization with glycoprotein gIV expressed in different recombinant systems. 5th International Bovine Herpesvirus Workshop. Asilomar, California, USA. July.

Popowich Y., Campos, M., Hughes, H.P.A. and Babiuk, L.A. 1991. Optimal antigen preparation allows for detection of a biphasic cell mediated immune response to bovine herpesvirus type 1. 72nd Conference of Research Workers in Animal Diseases. Chicago, Illinois, USA. November.

Sordillo, L.M., Godson, D.L., Campos, M. and Babiuk, L.A. 1991. Recombinant granulocyte/macrophage colony stimulating factor (GM-CSF) enhances bovine peripheral blood and mammary gland neutrophil function. 72nd Conference of Research Workers in Animal Disease. Chicago, Illinois, USA. November. pg. 69.

Apr-05

Yoo, D and Babiuk, L.A. 1991. Molecular pathogenesis of bovine coronavirus: Roles of the HE and S membrane glycoproteins. Veterinary Research Institute. Anyang, Korea. August.

Cox, G.S., Parker, M.D. and Babiuk, L.A. 1991. Characterization of bovine coronavirus 32K non-structural protein. 10th Annual ASV General Meeting Workshop. Fort Collins, Colorado, USA. No. 45-4.

Yoo, D., Zamb, T., Parker, M.D., Graham, F.L., Prevec, L. and Babiuk, L.A. 1991. Synthesis of the hemagglutinin/esterase glycoprotein of bovine coronavirus by helper independent, recombinant adenovirus. The 10th Annual Meeting of the ASV. July 7-11. Fort Collins, Colorado, USA. No. 45-7.

Sordillo, L.M., Campos, M. and Babiuk, L.A. 1991. Bactericidal activity of mammary gland lymphokine activated killer cells against *Staphylococcus aureus*. 30th Annual Meeting National Mastitis Council. Reno, Nevada, USA. February.

Sordillo, L.M., Campos, M. and Babiuk, L.A. 1991. Enhanced neutrophil activity following systemic administration of granulocyte/macrophage colony stimulating factor during mammary gland involution. 30th Annual Meeting of the National Mastitis Council. Reno, Nevada, USA. February.

Sordillo, L.M., Snider, M.G. and Babiuk, L.A. 1991. Toxic effects of high dose interleukin-2 treatment in lactating bovine mammary glands. American Dairy Science Association Annual Meeting. Logan, Utah, USA. August.

Sordillo, L.M., Campos, M. and Babiuk, L.A. 1991. Antibacterial activity of bovine mammary gland lymphocytes following activation with interleukin-2. American Dairy Science Association Annual Meeting. Logan, Utah, USA. August.

Sordillo, L.M., Campos, M., Gandy, J.C. and Babiuk, L.A. 1991. Effects of granulocyte/macrophage colony stimulating factor on caprine neutrophil activity during mammary gland involution. American Dairy Science Association Annual Meeting. Logan, Utah, USA. August.

Sordillo, L.M., Peel, J. and Babiuk, L.A. 1991. Potential role of cytokines in determining the outcome of acute coliform mastitis. 30th Annual Meeting National Mastitis Council. Reno, Nevada, USA. February.

Huemer, H.P., Lambris, J., Larcher, C., Enquist, L., Babiuk, L.A., Eisenberg, R., Cohen, R. and Friedman, H.M. 1991. Binding of complement component C3 to HSV-1 gC and gC homologs of PRV and BHV-1 shows species specificity. XVI Int. Herpesvirus Workshop. Abst. No. 6A-07.

van Drunen Littel-van den Hurk, S., Garzon, S., Tijssen, P., van den Hurk, J., Zamb, T. and Babiuk, L.A. 1991. Characterization of the major tegument protein VP8 of bovine

Apr-05

herpesvirus-1 (BHV-1). XVI Int. Herpesvirus Workshop. Abst. No. 10B-04.

Godson, D.L., Campos, M. and Babiuk, L.A. 1991. Non MHC-restricted cytotoxicity mediated by bovine intestinal intraepithelial leukocytes. Can. Soc. Immunol. Mtg. Banff.

Tikoo, S.K., D. R. Fitzpatrick, S. van Drunen Littel-van den Hurk, T. J. Zamb, and L. A. Babiuk. 1990. Antigenic analysis of BHV-1 glycoprotein gIV using deletion mutants. 15th International Herpesvirus Workshop. Georgetown University, Washington, D.C.

Babiuk, L.A. 1990. Rotavirus infections in humans and animals and their control. 2nd International Symposium on Viral Diseases, Beijing. S-13.

Babiuk, L.A. 1990. Immunological carriers in vaccine development. 2nd International Symposium on Viral Disease, Beijing. S-67.

Sordillo, L.M. and L.A. Babiuk. 1990. Controlling acute experimental *Escherichia coli* mastitis with recombinant bovine interferon gamma. J. Dairy Sci. 73 (Supplement 1): 212.

Babiuk, L.A., Campos, M., Sordillo, L., Hughes, H., Rossi-Campos, A. and Harland R. 1990. Interaction of cytokines and leukocytes in infectious disease. J. Dair Scie. 73 (Suppl 1): 235.

Sordillo, L.M. and L.A. Babiuk. 1990. Enhanced resistance to acute coliform mastitis following *in vivo* exposure to recombinant bovine interferon gamma. In: Proceedings of the International Conference Mastitis: Physiology or Pathology? Ghent, Belgium. p. 78.

Sordillo, L., Campos, M. and L.A. Babiuk. 1990. Effects of interleukin-2 on the antibacterial activity of bovine mammary gland leukocytes. In: Proceedings of the Conference of Research Workers in Animal Disease. Chicago. IL. p. 67.

Sordillo, L.M., Campos, M. and L.A. Babiuk. 1990. Recombinant bovine granulocyte/macrophage colony stimulating factor augments caprine neutrophil activity during mammary gland involution. In: Proceedings of the Conference of Research Workers in Animal Disease. Chicago, IL. p. 67.

Massie, B., Bergeron, J., Pelequin, L., Banville, M., Babiuk, L. and Richardson, C. 1990. Over-expression of bovine herpesvirus-1 glycoproteins gI and gIII using adenovirus and baculovirus vectors. VIIIth Int. Virol. Congress of Virology. Berlin. P40-025.

Fitzpatrick, D.R., Babiuk, L.A. and Zamb, T.J. 1990. A herpesvirus glycoprotein with homology to class II major histocompatibility complex antigen constant domains is a new member of the immunoglobulin superfamily. EOS - J. Immunol. Immunopharmacol. 4: 150.

Bielefeldt-Ohmann, H., Campos, M., Griebel, P.J., Snider, M., Beskorwayne, T., Rapin, N. and Babiuk, L.A. 1990. Leukocyte trafficking and localization in bovine respiratory tract tissue during primary BHV-1 infection: Implication for regulation by interferons. EOS - J. Immunol. Immunopharmacol. 4: 121.

Apr-05

Redmond, M.J. and Babiuk, L.A. 1990. Rotavirus particles serve as the basis of a new vaccine delivery system. VIIIth International Congress of Virology. Berlin. P32-007.

Ijaz, M.K., Attah-Poku, S., Redmond, M.J., Sabara, M.I., Frenchick, P. and Babiuk, L.A. 1990. Synthetic peptide vaccine confers passive protection against experimental rotavirus infection in neonatal mice. VIIIth International Congress of Virology. Berlin. P71-35.

Sordillo, L.M., Campos, M. and Babiuk, L.A. 1990. Recombinant bovine granulocyte/macrophage colony stimulating factor augments caprine neutrophil activity during mammary gland involution. Conference of Research Workers in Animal Disease. Chicago, IL.

Sordillo, L.M., Campos, M. and Babiuk, L.A. 1990. Effects of interleukin-2 on the antibacterial activity of bovine mammary gland leukocytes. Conference of Research Workers in Animal Disease. Chicago, IL.

Campos, M., Hughes, H.P.A., Godson, D., van Drunen Littel-van den Hurk, S., Zamb, T. and Babiuk, L.A. 1990. Cell-mediated immune response to a bovine herpesvirus-1 (BHV-1) subunit antigen. Conference of Research Workers in Animal Disease. Chicago, IL.

Campos, M., Godson, D. and Babiuk, L.A. 1990. Antiviral activities of bovine lymphocytes associated with mucosal surfaces. 27th Annual Meeting of the Society for Leukocyte Biology. Crete, Greece, October. Accepted.

Babiuk, L.A. and Redmond, M.J. 1990. Development of immunological carriers for delivery of peptides and proteins. 1st Int. Symp. on Immunization and Immunotherapy. Saudi Arabia.

Babiuk, L.A. 1990. The use of cytokines as immunomodulators. 1st Int. Symp. on Immunization and Immunotherapy. Saudi Arabia.

Babiuk, L.A., Campos, M., Sordillo, L., Rossi-Campos, A. and Potter, A. 1990. The use of cytokines in acute bacterial infections. Int. Workshop of Vet. Immunology. Tsukuba, Japan. Abst. No. 16.

Babiuk, L.A., Campos, M., Hughes, H., Sordillo, L., Harland, R., Rossi-Campos, A. and Jurado, J. 1990. Lymphokines as immune modulators in cattle. Int. Workshop of Veterinary Immunol. Tsukuba, Japan. Abst. No. 32.

Sordillo, L.M. and L.A. Babiuk. 1990. Use of recombinant bovine interferon-gamma against *Escherichia coli* mastitis. In: Proceedings of the 29th Annual Meeting of the National Mastitis Council. Louisville, KY. p. 189.

Campos, M., Rossi-Campos, A., Potter, A., Harland, R., Ohmann, H., Sordillo, L., Martinod, S., Peel, J. and L.A. Babiuk. 1989. The use of cytokines on acute bacterial infections. Proc. 2nd Immunobiology (Supplement) 4:15.

Apr-05

Redmond, M., Attah-Poku, S., Bielefeldt Ohmann, H., Ijaz, K and Babiuk, L.A. 1989. Rotavirus particles function as immunological carriers for the delivery of peptides. Connaught 75th Anniversary, Vaccine Symposium. Abst. No. II - 10.

Babiuk, L.A. 1989. Application of biotechnology to animal production. 5th NRC Industrial Biotech. Conf. Montreal.

Godson, D.L., Campos, M. and Babiuk, L.A. Lymphokine-activated cytotoxicity mediated by intestinal intraepithelial leukocytes. 70th Annual Meeting of the CRWAD, Chicago, IL. Nov. 1989.

Schuh, J.C.L., Bielefeldt Ohmann, H., Babiuk, L.A. and Doige, C.E. Pathology of the pharyngeal tonsil in bovine herpesvirus-1 infected calves. Proc. Ann. Meet. Amer. Coll. Vet. Path., Baltimore, Nov. 1989.

Campos, M., Rossi, C.R., Bielefeldt Ohmann, H., Beskorwayne, G., Rapin, N. and Babiuk, L.A. Analysis of the lymphokine activated killer cell (LAK) phenomenon in cattle. I. Characterization of the effector population. Proc. Can. Ass. Immunol., Ann. Meet., Banff, March 3-5, 1989.

Babiuk, L.A., Ijaz, M.K., Sabara, M., Yoo, D., Frenchick, P.J., Attah-Poku, S. and Redmond, M.J. October, 1989. Rotavirus infection and prevention as a veterinary problem. International Conference on Comparative and Applied Virology. Banff, Alberta.

Campos, M., Rossi, C.R., Bielefeldt-Ohmann, H., Beskorwayne, T.K., Rapin, N.E. and Babiuk, L.A. July, 1989. Characterization of the effector population responsible for cytotoxic responses observed after activation of bovine PBML with interleukin-2. 2nd International Veterinary Immunology Symposium. Hannover, F.R.G.

Campos, M., Rossi-Campos, A., Potter, A.A., Harland, R.J., Bielefeldt Ohmann, H. and Babiuk, L.A. July, 1989. Parenteral administration of interferons protects pigs from acute death caused by the gram-negative bacterium *Actinobacillus (haemophilus) pleuropneumonia*. 2nd International Veterinary Immunology Symposium. Hannover, F.R.G.

Campos, M., Rossi-Campos, A., Potter, A.A., Harland, R.J., Bielefeldt Ohmann, H., Sordillo, L.M., Martinod, S., Peel, J. and Babiuk, L.A. July, 1989. The use of cytokines on acute bacterial infections. 2nd International Veterinary Immunology Symposium, Hannover, F.R.G.

Ijaz, M.K., Dent, D.L. and Babiuk, L.A. October 1989. Polypeptide-specific humoral immune response following recovery from primary infection or immunization with rotavirus. VI International Conference on Comparative and Applied Virology. Banff, Alberta.

Parker, M.D., Cox, G.J. and Babiuk, L.A. 1989. Characterization of the envelope glycoproteins genes of bovine coronavirus. 4th International Symposium on Coronaviruses. Kings College, Cambridge, England.

Apr-05

Tikoo, S.K., Fitzpatrick, D.R., Zamb, T.J., Parker, M.D., van Drunen Littel-van den Hurk, S. and Babiuk, L.A. 1989. Inducible expression of bovine herpesvirus 1 glycoprotein gene gIV in murine cells. VIth International Conference on Comparative and Applied Virology. Banff, Alberta.

Van Drunen Littel-van den Hurk, S., Parker, M.D., Fitzpatrick, D.R., Zamb, T.J., van den Hurk, J.V. and Babiuk, L.A. 1989. Expression of bovine herpesvirus 1 glycoproteins gI and gIV by recombinant baculovirus and analysis of their immunologic properties. VIth International Conference on Comparative and Applied Virology. Banff, Alberta.

Yoo, M.D., Cox, G.J. and Babiuk, L.A. 1989. Bovine coronavirus: Production and characterization of the E3 glycoprotein in the baculovirus expression system. 8th Annual Meeting, American Society for Virology, London, Ontario.

Yoo, D.W., Parker, M.D., Cox, G.J. and Babiuk, L.A. July 9-13, 1989. Primary Structure of the E₂ peplomer protein of bovine coronavirus and expression in insect cells using a baculovirus. 8th Annual Meeting of the American Society for Virology. London, Ontario.

Yoo, D.W., Parker, M.D., Cox, G.J. and Babiuk, L.A. July 9-13, 1989. Characterization of the E₃ hemagglutinin gene of bovine coronavirus. 8th Annual Meeting of the American Society for Virology. London, Ontario.

Campos, M., Bielefeldt Ohmann, H., Babiuk, L.A. and Lawman, M.J.P. Detection of cell mediated immune responses to BHV-1 in lung parenchyma leukocytes after experimental infection of cattle with BHV-1. 40th Annual Convention of the Canadian Veterinary Medical Association. Saskatoon, Saskatchewan Canada. July, 1988.

Bielefeldt Ohmann, H., Campos, M., Fitzpatrick, D., Lawman, M.J.P. and Babiuk, L.A. Bovine polymorphonuclear neutrophils granulocyte-produced with antiviral (interferon-like) activity: characterization of the induction, secretion and activity of "polyferon". 25th National Meeting of the Society for Leukocyte Biology, Washington, DC, October 27-30, 1988.

Griebel, P.J., Bielefeldt Ohmann, H., Redmond, M.J., Campos, M. and Babiuk, L.A. November 1988. Bovine interferon-alpha and lymphocyte trafficking. 69th Conf. Res. Workers Animal Dis. Chicago, Illinois, USA.

Fitzpatrick, D.R., Bielefeldt Ohmann, H., Redmond, M.J., Campos, M. and Babiuk, L.A. November, 1988. Molecular mimicry by bovine herpesvirus type-1. 69th Conf. Res. Workers Animal Dis., Chicago, Illinois, USA.

Campos, M., Bielefeldt Ohmann, H. and Babiuk, L.A. November, 1988. Demonstration of the *in vitro* antiviral properties of bovine lymphokine activated killer (LAK) cells. 69th Conf. Res. Workers Animal Dis. Chicago, Illinois, USA. November.

Campos, M., Griebel, P.J., Babiuk, L.A., Beskorwayne, T.K., Snider, M.G. and Bielefeldt Ohmann, H. November, 1988. Mononuclear leukocytes population dynamics through local site

Apr-05

of inflammation following a primary bovine herpesvirus-1 infection. 69th Conf. Res. Workers Animal Dis., Chicago, Illinois, USA.

Babiuk, L.A. 1988. Immunization against rotaviruses. International Conference on the Impact of Viral Disease on Health Care and Medical Services in Saudi Arabia and the Middle East. Abstract No. 165

Babiuk, L.A., Sabara, M.I., Ijaz, M.K., Frenchick, P.J. 1988. Animal rotavirus vaccines: immune response to synthetic peptides. International Conference on the Impact of Viral Disease on Health Care and Medical Services in Saudi Arabia and the Middle East. Abstract No. 165.

Babiuk, L.A. 1988. Recent advances in vaccine development in veterinary medicine. Soc. Indust. Microbiol. Microbiol. Abstract. No. 5-19.

Babiuk, L.A. 1988. Vaccines. Short Course in Molecular Genetics Applied to Animal Breeding and Production. pp. 57-60.

Babiuk, L.A., Lawman, M.J.P., Gifford, G.A., Bielefeldt Ohmann, H., Campos, M. 1988. Use of recombinant bovine alpha-1 interferon in reducing respiratory disease induced by bovine herpes 1. XV World Buiatrics Congress. pp. 95-100.

Babiuk, L.A., van Drunen Littel-van den Hurk, S., Fitzpatrick, D. and Lawman, M.J.P. 1988. Bovine herpesvirus glycoprotein vaccines. International Conference on the Impact of Viral Diseases on Health Care and Medical Services in Saudi Arabia and the Middle East. Abstract No. 176.

Babiuk, L.A., Bielefeldt Ohmann, H., Campos, M. and Lawman, M.J.P. 1988. Application of lymphokines in the Control of Viral Infections. 2nd International Conference on the Impact of Viral Diseases in Latin America. Abstract. No. PS2-5.

Babiuk, L.A., Sabara, M.I., Ijaz, M.K. and Frenchick, P.J. 1988. Immunization against rotavirus infection. 2nd International Conference on the Impact of Viral Disease in Latin America. Abstract No. W2-1.

Babiuk, L.A., van Drunen Littel-van den Hurk, S., Lawman, M.J.P. 1988. Bovine herpesvirus glycoprotein vaccines. 2nd International Conference on the Impact of Viral Diseases in Latin America. Abstract No. W3-11.

Babiuk, L.A. 1988. Biotechnology applied in animal vaccine development and production. Canbiocan 88 Conference. Abstract No. A-3.

Bielefeldt Ohmann, H., Campos, M., Fitzpatrick, D., Lawman, M.J.P. and Babiuk, L.A. Bovine polymorphonuclear neutrophilic granulocyte-produced with antiviral (interferon-like) activity: characterization of the induction, secretion and activity of "polyferon". 25th National Meeting of the Society for Leukocyte Biology, Washington, DC. October 27-30, 1988.

Apr-05

Bielefeldt Ohmann, H., Campos, M., Babiuk, L.A. and Lawman, M.J.P. 1988. Bovine tumour necrosis factor-alpha (TNF-alpha) fails to induce 2-5A synthetase activity in cells but nevertheless inhibits viral replication, alone and in combination with interferons, by a non-cytolytic mechanism. *J. Leuk. Biol.* 42, 598. International Workshop on Monokines and Other Non-Lymphocytic Cytokines. Hilton Head Island, South Carolina, USA. Dec. 6-10.

Ijaz, M.K., Sabara, M.I., Frenchick, P.J. and Babiuk, L.A. June 24-July 5, 1988. Rotaviruses: towards prophylaxis "Immunological Adjuvants and Vaccines" sponsored by NATO Advanced Study Institute. Cape Sounion Beach, Greece.

Ijaz, M.K., Sabara, M.I., Frenchick, P.J. and Babiuk, L.A. July, 1988. Mouse model of rotavirus infection and disease: synthetic peptide vaccine studies. The Canadian Veterinary Medical Association 40th Annual Meeting, Saskatoon, Saskatchewan.

Redmond, M.J., Fitzpatrick, D.R., Campos, M., Bielefeldt Ohmann, H., van Drunen Littel-van den Hurk, S., Collins, J. and Babiuk, L.A. August 13, 1988. Pathogenesis of BHV-1 infection of lymphocytes and fibroblasts. 13th International Herpesvirus Workshop. University of California (Irvine), California, USA.

Van Drunen Littel-van den Hurk, S. and Babiuk, L.A. August, 1988. The role of carbohydrate in the antigenic structure of bovine herpesvirus-1 (BHV-1) glycoproteins gI and gIV. 13th International Herpesvirus Workshop. University of California (Irvine). California, USA.

van Drunen Littel-van den Hurk, S. and Babiuk, L.A. July 10-13, 1988. Protection of cattle from bovine herpesvirus-1 (BHV-1) infection by immunization with individual viral glycoproteins. Canadian Veterinary Medical Association 40th Annual Meeting, Saskatoon, Saskatchewan.

Gyongyossy-Issa, M., Campos, M., Babiuk, L.A. and Lawman, M.J.P. Divergent effects of recombinant porcine interferon-gamma on mitogen-driven blastogenic responses of the pig. African Swine Fever and Pig Immunology Meeting. Salamanca, Spain. Nov. 1987.

Bielefeldt Ohmann, H., M. Campos, L.A. Babiuk and M.J.P. Lawman. Bovine tumour necrosis factor-(TNF-) fails to induce 2-5A synthetase activity in cells but nevertheless, inhibits viral replication, along and in combination with interferons, by a non-cytolytic mechanism. *J. Leuko. Biol.* 42, 598, 1987.

Campos, M., Bielefeldt Ohmann, H., Hutchings, D.L., Gilchrist, J., Babiuk, L.A. and Lawman, M.J.P. Nov. 16-17, 1987. The role of interferon gamma on the cytotoxicity to bovine herpesvirus type-1 (BHV-1)-infected cells mediated by peripheral blood mononuclear leukocytes (PBML) from BHV-1 immune cattle. Proc. 68th Conf. Res. Workers Animal Dis, Chicago, Illinois, USA.

Fitzpatrick, D.R., Babiuk, L.A. and Lawman, M.J.P. November 16, 1987. Expression of bovine herpesvirus type-1 glycoproteins in transfected murine cells. 68th Conference of Research Workers in Animal Disease. Chicago, Illinois. USA.

Apr-05

Griebel, P.J., Qualtierre, L., David, W.C., Bielefeldt Ohmann, H., Lawman, M.J.P. and Babiuk, L.A. 1987. Peripheral blood T lymphocyte population dynamics and function following a primary bovine herpesvirus-1 (BHV-1)-infection. Proc. 68th Conf. Res. Workers Animal Dis., Chicago, Illinois, USA.

Fitzpatrick, D.R., Babiuk, L.A. and Lawman, M.J.P. 1987. Expression of bovine herpesvirus type-1 glycoproteins in transfected murine cells. 68th Conference of Research Workers in Animal Disease. Chicago, Nov. Abst. No. 327.

Lawman, M., Griebel, P., Hutchings, D., Davis, W.C., Heise, J., Qualtierre, L. and Babiuk, L.A. 1987. Generation of IL-2 dependent bovine cytotoxic T lymphocytes clones reacting against BHV-1 infected target cells: loss of genetic restriction and virus specificity. 68th Conf. of Res. Workers in Animal Dis. Chicago, Nov. Abstr. No. 309.

Gyongyossy-Issa, M., Campos, M., Babiuk, L.A. and Lawman, M. 1987. Divergent effects of recombinant porcine interferon-gamma on mitogen driven ConA blastogenic responses of the pig. 68th Conf. of Res. Workers in Animal Dis. Chicago, Nov. Abst. No. 305.

Griebel, P., Qualtierre, L., Davis, W., Bielefeldt Ohmann, H., Lawman, M. and Babiuk, L.A. 1987. Peripheral blood T lymphocyte population dynamics and function following a primary bovine herpesvirus-1 (BHV-1) infection. 68th Conf. of Res. Workers in Animal Dis. Chicago, Nov. Abst. No. 297.

Lawman, M., Potter, A., Issa, M., Heise, J. and Babiuk, L.A. 1987. Chemotactic components of *Pasteurella haemolytica* outer cell wall. Two distinct chemotactic factors with different specificities. 68th Conf. of Res. Workers in Animal Dis. Chicago, Nov. Abst. No. 278.

Hutchings, D., Lawman, M., Campos, M. and Babiuk, L.A. 1987. Inhibition of IL-2 induced proliferation of peripheral blood mononuclear leukocytes (PBML) by UV irradiated BHV-1 infected fibroblasts. 68th Conf. of Res. Workers in Animal Dis. Chicago, Nov. Abst. No. 277.

Campos, M., Bielefeldt Ohmann, H., Hutchings, D., Gilchrist, J., Babiuk, L.A. and Lawman, M.J. 1987. The role of interferon gamma on the cytotoxicity of bovine herpesvirus type-1 (BHV-1) infected cells mediated by peripheral blood leukocytes from BHV-1 immune cattle. 68th Conf. of Res. Workers in Animal Dis. Chicago, Nov. Abst. No. 275.

Griebel, P., Qualtierre, L., Davis, W., Lawman, M. and Babiuk, L.A. 1987. Bovine peripheral blood leukocytes subpopulation dynamics following a primary bovine herpesvirus (BHV-1) infection. 68th Conf. of Res. Workers in Animal Dis. Chicago, Nov. Abst. No. 274.

Godson, D.L., Campos, M., Babiuk, L.A. 1987. Non-MHC-restricted cytotoxicity to bovine coronavirus-infected cells mediated by cells from various anatomic locations. 68th Conf. of Res. Workers in Animal Dis. Chicago, Nov. Abst. No. 273.

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van Drunen Littel-van den Hurk, S., Zamb, T., Hughes, G. and Babiuk, L.A. 1987. Characterization of vaccinia recombinants expressing bovine herpesvirus-1 (BHV-1) glycoproteins gI and gIII. Submitted to International Congress of Virology, Edmonton, AB, Canada. August.

Campos, M., Bielefeldt Ohmann, H., Babiuk, L.A. and Lawman, M.J.P. 1987. Studies on the *in vitro* biological activities of recombinant bovine tumor necrosis factor (rBoTNF). I. Antiviral efficacy of rBoTNF in synergy with recombinant bovine interferon gamma rBoIFN-gamma, Conference on Tumor Necrosis Factor and Related Cytotoxins. Heidelberg, FRG. September, 1987.

Lawman, M.J.P., Fitzpatrick, D., Parker, M., Hughes, G. and Babiuk, L.A. 1987. Development of a mouse model system to study T_{cd} response to BHV-1. 68th Conf. of Res. Workers in Animal Dis. Chicago, Nov. Abst. No. 312.

Hughes, G., van Drunen Littel-van den Hurk, S. and Babiuk, L.A. 1987. Topology of bovine herpesvirus 1 (BHV-1) glycoproteins gIV. Submitted VIIth International Congress of Virology, Edmonton, AB Canada. August.

Babiuk, L.A. 1987. Animal Vaccine. 37th Annual Meeting of CSM. Saskatoon, Abstract No. CPS 1.

Babiuk, L.A. 1987. Treatment and Prevention of Respiratory Disease by Interferon. WCVM June Conference. Saskatoon, Saskatchewan.

Babiuk, L.A. 1987. Guidelines for working with Infectious Agents. 34th National Conference on Campus Safety. July, Edmonton, Alberta.

Babiuk, L.A. 1987. Potential for using immunomodulatory agents in viral bacterial infection. Chicago.

Babiuk, L.A. 1987. Special characteristics of bovine and human respiratory syncytial viruses. SVMA Mid-Winter Convention, Saskatoon.

Babiuk, L.A., van den Hurk, S. and Mechor, G. 1986. Application of monoclonal antibodies for identification and purification of important BHV-1 viral antigens. Vth International Conference of Comparative Virology.

Babiuk, L.A., Lawman, M.J.P., Gifford, G.A. and Bielefeldt Ohmann, H. 1986. Interferon: An application of recombinant DNA technology in bovine respiratory disease. Proceedings of American Pharmacologist Society Annual Meeting. Lake of the Ozark, USA

Bielefeldt Ohmann, H. and Babiuk, L.A. 1986. Alteration of bovine alveolar macrophage functions by *in vivo* and *in vitro* treatment with recombinant interferons. Alpha-1 and gamma. 1st International Veterinary Immunology Congress.

Apr-05

Frenchick, P.J., Sabara, M.I., Ijaz, M.K. and Babiuk, L.A. 1986. Immune response to synthetic peptide vaccines. Vth International Conference of Comparative Virology, Alberta, Canada. May, 1986.

Hughes, G., van Drunen Littel-van den Hurk, S. and Babiuk, L.A. 1986. Monoclonal antibodies specific for bovine herpesvirus-1 (BHV-1) glycoproteins gIV. Abstracts for Eleventh International Herpesvirus Workshop, Leeds, U.K.

Sabara, M.I., Ijaz, M.K. and Babiuk, L.A. 1986. Monoclonal antibodies as probes for the identification of biologically important regions on rotavirus proteins and their use in preventive treatment of enteric infections. Vth International Conference of Comparative Virology, Alberta, Canada. May.

Sabara, M.I., Frenchick, P.J. and Babiuk, L.A. 1986. The ability of synthetic peptides corresponding to regions on the 84k protein to mimic authentic sites. Symposium for Double-Stranded RNA Viruses. Oxford, England.

van Drunen Littel-van den Hurk, S., L'Italien, J., Lawman, M.J.P., Gifford, G.A., Zamb, T., Hughes, G. and Babiuk, L.A. 1986. Protection of cattle from lethal bovine herpesvirus-1 (BHV-1)/*P. haemolytica* (*P. haem.*) infection by immunization with affinity purified-BHV-1 glycoproteins. Eleventh International Herpesvirus Workshop, Leeds, U.K.

Ijaz, M.K., Sabara, M.I., Frenchick, P.J. and Babiuk, L.A. 1986. Passive protection of rotavirus-induced diarrhea in neonatal mice. 6th International Congress of Immunology, Toronto, Canada. July.

Babiuk, L.A. 1986. Application of biotechnology to animal health. Farming for the Future Conference, March, Edmonton, Alberta.

Babiuk, L.A. 1986. Interferon: An application of recombinant DNA technology in bovine respiratory disease, Missouri.

Deregt, D., Sabara, M. and Babiuk, L.A. 1986. Monoclonal antibodies to two bovine coronavirus glycoproteins neutralize virus infectivity. 3rd International Coronavirus Symposium, September. Asilomar, California.

Rousseaux, C.G., Mechor, G.D., Petri, L., Babiuk, L.A. and Radostitis, O.M. 1986. The protective effect of bovine herpesvirus-1 (BHV-1) colostral antibody against fatal neonatal BHV-1 infection. 37th Annual Meeting. Am. College. Vet. Path. Page 37.

Sabara, M.I., Ready, K.F.M., Frenchick, P.J. and Babiuk, L.A. Characterization of the nucleocapsid protein of ovine rotavirus. Symposium for Double-Stranded RNA Viruses. Oxford, England.

Ijaz, M.K., Sabara, M.I., Frenchick, P.J. and Babiuk, L.A. 1986. Passive protection of rotavirus-induced diarrhea in neonatal mice. 8th Int. Cong. Immunol. Toronto, Canada. July.

Apr-05

Babiuk, L.A. 1985. Mechanisms of pathogenesis of bovine herpesvirus-1. 1st BIOP Symposium. Abst. No. 5.

Anderson, K., Czarniecki, C., McCracken, J., Bielefeldt Ohmann, H. and Babiuk, L.A. 1985. The potential use of bovine interferon in bovine respiratory disease. 4th Comp. Resp. Dis. Cont. p. 39-46.

Czarniecki, C.W., Anderson, K., Fennie, E.B., Bielefeldt Ohmann, H. and Babiuk, L.A. 1985. Bovine interferon alpha-1 is an effective inhibition of bovine herpesvirus-1 induced respiratory disease. Proc. 1st International TNO Conference. Antiviral Research. Supp 1 209-215.

Babiuk, L.A. 1985. Mechanisms of viral induced immunomodulation. IVth Int. Conf. on Impact Viral Diseases on the Development of African and Middle East Countries. Morocco. Abst. No. P3-7

Babiuk, L.A. 1985. Monoclonal antibodies in virology. IVth Int. Conf. on Impact of Viral Diseases on the Development of African and Middle East Countries. Morocco. Abst. No. P3-10.

Bielefeldt Ohmann, H. and Babiuk, L.A. 1985. Alterations of neutrophil functions after *in vivo* and *in vitro* exposure to recombinant bovine interferon or . J. Leukocyte Biology, 38: 165.

Bielefeldt Ohmann, H. and Babiuk, L.A. 1984. *In vitro* and systemic effects of recombinant bovine interferons on natural cell-mediated cytotoxicity in healthy and in bovine herpesvirus-1 infected cattle. J. Leuk. Biol. 36: 451.

Babiuk, L.A. 1984. Viral bacterial synergistic interactions in respiratory diseases. Can. Fed. Biol. Soc. Annual Meeting Abst. No.

Bielefeldt Ohmann, H. and Babiuk, L.A. 1984. *In vitro* and systemic effects of recombinant bovine interferons on natural cell-mediated cytotoxicity in healthy and herpesvirus-infected calves. Int. Workshop on Human Monocyte Cytotoxicity. Abst. No. 13.

Sabara, M., Gilchrist, J.E., Babiuk, L.A. and Hudson, J.R. 1984. Characterization of the major bovine rotavirus glycoprotein. VIth Int. Congress Virol. Abst. No. p. 9-12.

van Drunen Littel-van den Hurk, S., van den Hurk, J.V. and Babiuk, L.A. 1984. Antigenic and immunogenic characteristics of bovine herpesvirus type-1 (BHV-1) glycoproteins. International Herpesvirus Workshop. Seattle, WA. p. 270.

Sabara, M., Gilchrist, J.E., Babiuk, L.A. and Hudson, G.R. 1984. Characterization of the major bovine rotavirus glycoprotein. VIth International Congress of Virology, Sendai, Japan. Abst. No. P9-12.

Deregt, D., Crouch, C.F. Sabara, M., Gilchrist, J.E., Babiuk, L.A. and Hudson, G.R. 1984.

Apr-05

Characterization of bovine coronavirus (BCV) glycoproteins using monoclonal antibodies. VIth Int. Cong. Virol., Sendai, Japan. Abst. No. W22-3.

Deregt, D., Crouch, C.F., Sabara, M., Gilchrist, J.E., Babiuk, L.A. and Hudson, G.R. 1983. Preliminary studies of a bovine coronavirus (BCV) antigen responsible for neutralization. Proc. 4th Int. Symposium on Neonatal Diarrhea. Veterinary Infectious Disease Organization, Saskatoon, Saskatchewan. pp. 117-133.

Sabara, M., Gilchrist, J., Babiuk, L.A. and Hudson, G.R. 1983. A study of the bovine rotavirus type specific antigen. Proc. 4th Int. Symposium on Neonatal Diarrhea. Veterinary Infectious Disease Organization, Saskatoon, Saskatchewan. pp. 28-47.

van Drunen Littel-van den Hurk, S., van den Hurk, J.V., Misra, V. and Babiuk, L.A. 1983. Monoclonal antibodies, specific for bovine herpesvirus type 1 glycoproteins. International Herpesvirus Workshop, Oxford, England. p. 274.

Babiuk, L.A. and Acres, S.D. 1982. Animal Viral Induced Gastroenteritis: Problems in Diagnosis and Control IVth Int. Conf. on Comp. Viral. p 4-4.

Sabara, M. and Babiuk, L.A. 1982. The Significance of Rotavirus Electrophoretic Heterogeneity Within Individual Bovine Rotavirus Isolates. Double Stranded RNA Virus Conf.

Filion, L.G., McGuire, R.L. and Babiuk, L.A. 1982. The Suppression Effect of BHV-1 on the Specific and non-specific Immune Response of Calves. CRWAD Abstract No. 189.

Misra, V. and Babiuk, L.A. 1982. Characterization of a Herpesvirus Induced "Early" Glycoprotein. CSH Abstract No. 108.

Misra, V. and Babiuk, L.A. 1982. Bromovinyl Deoxyuridine (BVdU) Inhibits Glycosylation of Herpesvirus Glycoproteins. CSH Abstract No. 170.

Ayisi, N.K., Babiuk, L.A. and Gupta, V.S. 1982. Drug resistance to antiviral drugs - *In vitro* studies with Herpes Simplex. ASM Abstract No. 558.

Nkuuhe, J.R., Manns, J.G., Bristol, F. and Babiuk, L.A. 1981. Pyometra in the Cow: High levels of prostaglandin (PG) F and PGE but with a Retained Corpus Luteum. American Society of Animal Science Abstract No.

McGuire, R.L. and Babiuk, L.A. 1981. Culture Characteristics of Bovine Alveolar Macrophages. Canadian Federation of Biology Society Abstract No. 510.

McGuire, R.L., Branes, L.V. and Babiuk, L.A. 1981. The Effect of *Pasteurella multocida* Membrane Fractions on Bovine Alveolar Macrophages. Canadian Society of Microbiology Abstract No. D13p.

Branes, L.V. and Babiuk, L.A. 1981. Protection Against Pasteurellosis induced by

Apr-05

Immunization with Cell Envelope Antigens of *Pasteurella multocida*. Canadian Society of Microbiology Abstract No. D25.

Branes, L.V. and Babiuk, L.A. 1981. Isolation and Characterization of Outer Membranes from Various Pathogenic Strains of *Pasteurella multocida*. Canadian Federation of Biology Society Abstract No. 20.

Babiuk, L.A., Blumenthal, R.M. and Misra, V. 1980. Correlative Analysis of Herpesviruses by Two-Dimensional Electrophoresis of Proteins and Restriction Patterns of DNA. ICN-UCLA Winter Conference Abstract No. 724.

Misra, V. and Babiuk, L.A. 1980. Possible Mechanisms of Rotavirus Persistence. INC-UCLA Winter Conference Abstract No. 779.

Babiuk, L.A. 1980. Role of Rotaviruses in Diarrhea of Mammals and Methods of Rapid Diagnosis. Second International Conference on the Impact of Viral Diseases on the Development of African and Middle East Countries.

Misra, V., Blumenthal, R.M. and Babiuk, L.A. 1980. Correlative Analysis of Herpesvirus by Two Dimensional Electrophoresis of Proteins and Restriction Patterns of DNA. International Conference on Human Herpesviruses Abstract No. G05.

Babiuk, L.A. 1980. Role of Rotavirus in Diarrhea of Mammals and Methods of Rapid Diagnosis. Conference on World Development, Kenya.

Grewal, A.S., Rouse, B.T. and Babiuk, L.A. 1979. Destruction of Herpesvirus Infected Cells by Neutrophils and Complement. Cold Spring Harbor Symposium, August.

Babiuk, L.A. 1979. Rotavirus Persistency *in vitro*. Rotavirus Meeting, September 2-7, Paris, France.

Babiuk, L.A. and Rouse, B.T. 1979. Immune Control of Latency. Canadian Journal of Microbiology, 25: 267-274.

Monette, J.P.L., Carpio, M.M., Kapitany, R.A. and Babiuk, L.A. 1979. Polypeptide Analysis of Bovine Rotavirus. Proceedings of the Second International Symposium on Neonatal Diarrhea, 249-262.

Carpio, M.M. and Babiuk, L.A. 1979. Ultrastructural Changes During Calf-Rotavirus Replication in BSC-1 Monkey Kidney Cells in Culture. Proceedings of the Second International Symposium on Neonatal Diarrhea, 237-248.

Spence, L., Fauvel, M., Petro, R., Gillani, A. and Babiuk, L.A. 1979. A Preliminary Study of Antigenic Relationships Among Isolates of Bovine Rotaviruses. Proceedings Second International Symposium Neonatal Diarrhea, 263-272.

Apr-05

Ayisi, N.K., Gupta, V.S., Taneja, A.K., Meldrum, J.B. and Babiuk, L.A. 1979. Canadian Federation of Biological Society, No. 129, Vancouver, B.C.

Hayes, M.A., Russell, R.G. and Babiuk, L.A. 1979. Parvoviral Myocarditis in Dogs. Canadian Congress of Laboratory Medicine, June.

Acres, S.D. and Babiuk, L.A. 1978. Studies on Rotavirus Antibody in Bovine Serum and Lacteal Secretions Using a Radioimmunoassay, March, Bethesda, Maryland.

Carpio, M. and Babiuk, L.A. 1978. Ultrastructural Changes in Rotavirus Infected Cultures. Canadian Veterinary Medical Association Meeting, Regina, Saskatchewan.

Warenycia, M. and Babiuk, L.A. 1978. HSV-1 Latency in Neuronal Cultures: *In vitro* Evidence for the Static State Hypothesis? Canadian Society of Microbiology Meeting, Montreal, Quebec.

Babiuk, L.A. 1978. Immune Control of Latency. Canadian Society of Microbiology Symposium, June, Montreal, Quebec.

Rouse, B.T. and Babiuk, L.A. 1978. Neutrophils in Antiviral Immunity: Inhibition of Virus Replication by a Mediator Produced by Bovine Neutrophils. American Society of Immunology Meeting, June, Atlanta, Georgia.

Acres, S.D., Babiuk, L.A. and Rouse, B.T. 1977. Micro-radioimmunoassay for Antibodies to Bovine Rotaviruses. Canadian Federation of Biology Society Abstract No. 245.

Grewal, A.S., Rouse, B.T. and Babiuk, L.A. 1977. Enhancement of Antibody Dependent Cell Cytotoxicity of Herpesvirus Infected Cells by Complement. Canadian Federation of Biology Society Abstract No. 241.

Ho, C.K., Babiuk, L.A. and Rouse, B.T. 1977. Lack of Genetic Restriction in Canine Antiviral Cytotoxicity of Herpesvirus Infected Cells by Complement. Canadian Federation of Biology Society Abstract No. 240.

Babiuk, L.A. and Acres, S.D. 1977. Radioimmunoassay for Rotaviruses. International Congress on Reoviruses, Guelph, Ontario.

Fauvel, M., Spence, L., Babiuk, L.A. and Petro, R. 1977. Hemagglutination and Hemagglutination Inhibition Studies with Neonatal Calf Diarrhea. American Society of Microbiologists Abstract no. RT30.

Rouse, B.T. and Babiuk, L.A. 1976. Antibody Dependent Cell Cytotoxicity of IBR Infected Cells by Neutrophils. 57th Conference on Animal Diseases.

Babiuk, L.A. and Rouse, B.T. 1976. Enhancement of Immunological Activity by Bovine Type II Interferon. Implications in Recovery from Herpesviruses. 57th Conference of Animal

Apr-05

Diseases.

Rouse, B.T., Babiuk, L.A., Wardley, R.C. and Grewal, A.S. 1976. Role of Neutrophils in Antiviral Defense. Canadian Federation of Biology Society Abstract No. 226.

Babiuk, L.A. and Rouse, B.T. 1976. Immune Interferon Production by Lymphoid Cells: Role in the Inhibition of Herpesviruses. Canadian Federation of Biology Society Abstract No. 225.

Babiuk, L.A. and Rouse, B.T. 1975. Interferon Production by Bovine Lymphocyte Macrophage Cultures. 56th Annual Conference of Disease Workers Abstract No. 17.

Rouse, B.T., Babiuk, L.A. and Wardley, R.C. 1975. The Role of Antibody Dependent Cytotoxicity in Recovery from IBR Virus Infections. 56th Annual Conference of Disease Workers Abstract No. 21.

Babiuk, L.A. and Rouse, B.T. 1975. Ribonucleotides in Infectious Bovine Rhinotracheitis Virus. Canadian Federation of Biology Society Abstract No. 154.

Wardley, R.C., Babiuk, L.A. and Rouse, B.T. 1975. Mechanisms of Immunity to Infectious Bovine Rhinotracheitis Virus. Canadian Federation of Biology Society Abstract No. 154.

Rouse, B.T. and Babiuk, L.A. 1974. Cell Mediated Immunity Against IBR Virus. 55th Annual Conference of Research Workers in Animal Diseases, Abstract No. R-6.

Fauvel, M., Babiuk, L.A., Sheaff, E.T. and Spence, L. 1973. Preparation of Dane Core (Hepatitis B) Antigen for Use in the Immune Electron Microscopy Test. Canadian Public Health Association Abstract No. R-6.

Babiuk, L.A. 1972. "Integration" of Polyoma DNA Into Mammalian Genomes. Canadian Federation of Biology Society Abstract No 290.

Babiuk, L.A. and Hudson, J.B. 1971. The State of the Viral Genome in Polyoma Virus Transformed Cells. Canadian Federation of Biology Society Abstract No. 631.

TECHNICAL REPORTS RELEVANT TO ACADEMIC FIELD

Babiuk, L.A. 1978. An Overview of Veterinary Virology. University of Saskatchewan, Department of Continuing Veterinary Education, 27 pp.

INVITED LECTURES OUTSIDE U.S.

Note: Lectures after 1985 not included - too numerous to include.

Apr-05

L.A. Babiuk. 1985. Potential role of biotechnology in animal health. April. Kalamazoo, Michigan.

L.A. Babiuk. 1985. Shipping Fever in cattle. January. Saskatoon, Saskatchewan for the Saskatchewan Veterinary Medical Association Meeting.

L.A. Babiuk. 1985. Application of monoclonal antibodies for identification of bovine herpesvirus glycoproteins. February. Winnipeg, Manitoba.

L.A. Babiuk. 1985. Monoclonal antibodies in Biology. February. Saskatoon, Saskatchewan at Kelsey Institute.

L.A. Babiuk. 1985. Viral bacterial synergism - Use of interferon to reduce BHV-1 pasteurella induced respiratory disease. February. Winnipeg, Manitoba.

L.A. Babiuk. 1985. Use of monoclonal antibodies to characterize BHV-1 glycoproteins. March. Toronto, Ontario.

L.A. Babiuk. 1984. Characterization and processing of BHV-1 glycoproteins. December. Calgary, Alberta.

L.A. Babiuk. 1984. Effect of interferon on bovine leukocyte function. December. San Francisco, California.

L.A. Babiuk. 1984. Interferon in bovine respiratory disease. March. Gainesville, Florida.

L.A. Babiuk. 1984. Glycoprotein of bovine herpesvirus. March. Gainesville, Florida.

L.A. Babiuk. 1984. Enteric viral infections in humans. March. Edmonton, Alberta.

L.A. Babiuk. 1984. Immune responses to bovine herpesvirus glycoprotein. April. Plant Biotechnology Institute in Saskatoon, Saskatchewan.

L.A. Babiuk. 1984. Veterinary research. April. SEDCO Centre, Saskatoon, Saskatchewan.

L.A. Babiuk. 1984. Characterization of the bovine immune response to BHV-1 glycoproteins. March. Edmonton, Alberta.

L.A. Babiuk. 1984. Characterization of the bovine immune response to BHV-1 glycoproteins. March. Edmonton, Alberta.

L.A. Babiuk. 1984. Viral-bacterial Synergistic Interaction in respiratory disease. June. Canadian Federation Biological Societies Annual Meeting - Saskatoon, Sask.

L.A. Babiuk. 1984. Viral induced immunosuppression by BHV-1 virus. June. Workshop on viral induced Immunosuppression. Sponsored by Medical Research Council of Canada. Montreal, Quebec.

L.A. Babiuk. 1984. Bovine herpesvirus. July. Canadian Veterinary Medical Association Convention, Guelph, Ontario.

L.A. Babiuk. 1983. Experimental models for bovine respiratory disease. September. Amarillo, Texas.

L.A. Babiuk. 1983. Effects of levamisole and bovine interferon 1 on bovine immune responses and susceptibility to bovine herpesvirus. September. Washington, D.C.

L.A. Babiuk. 1983. BHV-1 glycoproteins - Biochemical and functional characteristics. September. Minneapolis, MN

L.A. Babiuk. 1983. Viruses in bovine respiratory diseases. October. Washington, D.C.

L.A. Babiuk. 1983. Bovine herpesvirus glycoproteins. NRC. Saskatoon, Saskatchewan.

L.A. Babiuk. 1983. Murine cytomegalovirus - Pseudomonas synergistic infections. December. San Francisco, California.

L.A. Babiuk. 1983. Clinical applications of bovine interferon in bovine respiratory disease. Genentech. January. San Francisco, California.

L.A. Babiuk. 1983. Overview of bovine respiratory disease. USDA-FDA. March.

Apr-05

Washington, D.C.

L.A. Babiuk. 1983. Efficacy of bovine interferon in IBR-pasteurella model for shipping fever. USDA-FDA. March. Washington, D.C.

L.A. Babiuk. 1983. Animal virus induced gastroenteritis. March. Kuwait.

L.A. Babiuk. 1983. Viral-bacterial synergistic interactions in respiratory infections. March. Kuwait.

L.A. Babiuk. 1983. Defense mechanism against virus infection. Ontario Veterinary College. March. Guelph, Ontario.

L.A. Babiuk. 1983. Advances in biotechnology and applications in veterinary medicine. Ontario Veterinary College. March. Guelph, Ontario.

L.A. Babiuk. 1983. Infectious bovine rhinotracheitis - the virus, the disease and the immune response. Ontario Veterinary College. April. Guelph, Ontario.

L.A. Babiuk. 1983. Rotavirus infections in cattle. Ontario Veterinary College. April. Guelph, Ontario.

L.A. Babiuk. 1983. Recent advantages in shipping fever. Ontario Veterinary College. April. Guelph, Ontario.

L.A. Babiuk. 1983. Interferon. CSLT Meeting. May. Saskatoon, Saskatchewan.

L.A. Babiuk. 1983. Recent progress in bovine respiratory disease. CVMA Convention. July. Calgary, Alberta.

L.A. Babiuk. 1983. Efficacy of bovine interferon in clinical trials. July. San Francisco, California.

L.A. Babiuk. 1983. Effect of levamisole and bovine interferon alpha on bovine immune responses and susceptibility to bovine herpesvirus-1. Chemical Modulators in Immunity. September. Washington, D.C.

L.A. Babiuk and Acres, S.D. 1983. Experimental models for bovine respiratory disease. North American Symposium on Bovine Respiratory Disease. September. Amarillo, Texas.

L.A. Babiuk. 1979. Herpesvirus - latency and immune control. University of Calgary. Calgary, Alberta.

L.A. Babiuk. 1979. Herpesvirus vaccination and immunity. A.D.R.I. February. Ottawa, Ontario.

L.A. Babiuk. 1978. Biological role of interferon. University of Tennessee. March. Knoxville, Tennessee.

L.A. Babiuk. 1978. Immune responses to herpesviruses. University of Victoria. December. Victoria, British Columbia.

L.A. Babiuk. 1978. Immunity to herpesviruses and latency. University of Manitoba. November. Winnipeg, Manitoba.

L.A. Babiuk. 1978. Defense mechanisms to herpesvirus. University of Utah. Salt Lake City, Utah.

L.A. Babiuk. 1976. Advantages and disadvantages of vaccines. Annual Veterinary Medicine Association Convention. February. Edmonton, Alberta.

L.A. Babiuk. 1976. Advantages and disadvantages of vaccines. Saskatchewan Veterinary Medicine Association Convention. January. Saskatoon, Saskatchewan.

L.A. Babiuk. 1975. Immune responses to infectious bovine rhinotracheitis virus. University of Florida. March. Gainesville, Florida.

L.A. Babiuk. 1975. Bovine immunity. University of Iowa. December. Ames, Iowa.

Apr-05

ARTISTIC EXHIBITION OR PERFORMANCES

L.A. Babiuk. 1977. Three T.V. films, 45 minutes each. Update on Veterinary Virology. Western College of Veterinary Medicine, Saskatoon, Saskatchewan.

PROFESSIONAL PRACTICE

Presentation to Recycled Veterinary Program (Federal Government) 8 hrs. 1985.

Three - 1 hour television programs - Televet - 1984.

Presentation to Hub City Holstein Association. 1983.

Presentation to Provincial Medical Officers and Federal Government practitioners. Rabies and related diseases. Prince Albert. 1981. Winnipeg. 1981.

Presentation to Recycled Veterinary Program (Federal Government) - 12 hours - 1983; 12 hours - 1982; 12 hours - 1981; 12 hours - 1980.

Presentations on virology for veterinarians:

1978	- Lethbridge	- 6 hours
	- Edmonton	- 6 hours
	- Red Deer	- 6 hours
	- Calgary	- 6 hours
	- Kamloops	- 6 hours
	- Cranbrook	- 6 hours
	- Vancouver	- 6 hours
	- Victoria	- 6 hours
	- Winnipeg	- 6 hours
	- Brandon	- 6 hours

Presentation to Recycled Veterinary Program (Federal Government) - 16 hours - 1978.

Presentations on virology for veterinarians:

1977 - Swift Current	- 6 hours
- Regina	- 6 hours
- Carlyle	- 6 hours
- Yorkton	- 6 hours
- North Battleford	- 6 hours

Presentations to Recycled Veterinary Program (Federal Government), 1977 (16 hours).

Presentations to Animal Nutrition Course (Saskatoon), January, 1976; February, 1976.

Presentation to Recycled Veterinary Program (Federal Government), 1976; (8 hours).

Presentations to Animal Nutrition Course (Saskatoon), January, 1975; February, 1975;
November, 1975.

Presentation to Animal Nutrition Course (Saskatoon), November, 1974

DEPARTMENTAL AND COLLEGE COMMITTEES

Apr-05

Glassware Media Preparation Laboratory Supervisor, 1975-93
Diagnostic Virology, Supervisor, 1975-84
Bovine, Respiratory Disease Program, Chairman, 1983-90
Curriculum Planning, Member, 1976-79
Second Year Teachers, Chairman 1976 and 1979, Member, 1974-94
Electron Microscope, Chairman 1975-78, Member, 1974-78
Admissions Interview, Member 1974-78
Animal Resources, Chairman, 1974-76; Member, 1973-74

UNIVERSITY COMMITTEES

Life Sciences Executive, Member 1980-83
Biohazards Committee, Chairman, 1977-1999
Member, 1999-present
Occupational Health Committee, Member, 1980-83
Microbiology Curriculum Committee, Chairman, 1977-83, Member 1974-83
Agricultural Biotechnology Committee, Member, 1982-1990
Ad hoc Committee on Biotechnology, Member, 1982
Life Science Executive of Graduate Studies, Member 1978-80
CIHR Advisory Committee, 2000-present

PROFESSIONAL AND ASSOCIATION OFFICES AND COMMITTEE ACTIVITY OUTSIDE UNIVERSITY**Grant Review Committees:**

Member, MRC - Fellowship Grant Committee 1986-88
Chairman, NSERC Biotechnology Strategic Grants Committee, 1986-87
Member, MRC Microbiology and Infectious Disease Grants Committee, 1976-82
Member MRC Major Equipment Grant Review Committee, 1984-85
Member, NSERC Biotechnology Strategic Grants Committee, 1984-87
Member - MRC Program Grants Review Committee 1989-92
Member - MRC Microbiology & Infectious Disease Grant Committee 1996- 1997
Member - MRC Virology & Viral Pathogenesis Committee 1998-1999
Member - IHRT - CIHR Committee - 2000

External Reviewer:

Dept. of Microbiology, University of British Columbia, Vancouver, BC - 1996
Dept. of Micro & Immunol, University of Western Ontario, London, ON. - 2001
Dept. of Micro & Immunol. Queens University, Kingston, ON. - 2002

Government Committees:

Apr-05

CARC Standing Committee on Biotechnology - 1983-94
Member, National Academy of Sciences (USA) Board on Agriculture Committee - 1984-86
Member of National Biotechnology Advisory Committee - 1988-98
Member of National Biotechnology Advisory Committee Agribusiness Subcommittee - 1989-96
Member of National Biotechnology Advisory Committee Biopharmaceutical Subcommittee - 1989-96
Chairman of Health and Welfare/MRC Committee on Biohazards - 1987-1990
Member of National Research Council Institute of Biological Sciences Board of Governors - 1990-94
Member of Health and Welfare Large Scale Fermentation Guidelines - 1991-96
Chairman of Health Canada - Biosafety Advisory Committee - 1994-99
Member of Natural Sciences & Engineering Research Council - 1996-1999
Member of National Sciences & Engineering Research Council Executive Committee - 1998-1999
Chairman of Natural Sciences & Engineering Research Council - Funding Re-allocations Committee - 1997-1998
Member of MRC Business Development Committee - 1993-97
Member of Board of Directors - Canadian Foundation for Innovation - 1997-present
Chair of Audit Committee - Canadian Foundation for Innovation - 1997-present
Member of National Xenotransplantation Committee - 1997-1999
Member of Expert Committee on Xenotransplantation - 1999-2004
CARC Steering Committee on Canadian Biotechnology Strategy - 1998
Member of Saskatchewan Research Council Fermentation Facility Advisory Board - 1999-present
Member - Canadian Biotechnology Advisory Committee - 1998-2004
Chair - Stewardship Committee of Canadian Biotechnology Advisory Committee - 1998-2004
Member - Executive Committee of Canadian Biotechnology Advisory Committee - 1998-2004
Member - Genome Canada Board - 2000 - present
Chair - Genome Canada Audit Committee - 2000-present
Chair - CIHR - Infection and Immunity Institute Advisory Board - 2000-present
Member - Alberta Heritage Fund for Medical Research: Technology Commercialization Committee - 2000-present
Member - Board of Directors - CANVAC - 2001-present
Member - Ministerial Advisory Committee on CBRN Safety, Security and Research - 2002-present
Member - Canada Research Chair, College of Reviewers - 2002-present
Member - NRC (USA) Board on Agriculture and Natural Resources - 2004-2005
Member of Scientific Advisory Board - Health Canada - 2004-present

Professional Activities:

Member of CSM Biotechnology Committee - 1982-84
Member of CDA Biotechnology in Agriculture Task Force - 1983-84

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Ph.D. Program Review, Department of Veterinary Microbiology and Immunology, University of Guelph - 1983
Chairman, Virology Section, Canadian Society of Microbiology - 1982-84
Vice-Chairman, Virology Section, Canadian Society of Microbiology - 1980-82
Associate Editor, Canadian Journal of Microbiology - 1979-1984
Visiting Professor, University of Guelph - 1983
Editorial Advisory Board, Progress in Veterinary Microbiology Series - 1983-present
Editorial Board, Can. J. Comp. Med. - 1984-1990
Editorial Board - Antiviral Research - 1986-2000
Editorial Board - Current Opinions in Microbiology - 1997-present
Editorial Board - Viral Immunology - 1997-2000
Member, International Conferences on Comparative Virology Organization Committee - Canadian Advisor - 1987-present
Advisor - Kelsey Institute Biological Sciences Program - 1986-94
Contributor - Merck Manual in Veterinary Medicine - 6th & 7th Edition
Member of the Scientific Advisory and Budget Committee - Canadian Bacterial Disease Network Centre of Excellence (CBDN) - 1990-present
Member Board of Directors - Canadian College of Microbiologists - 1991-95
Vice-President, Board of Directors - Canadian College of Microbiologists - 1993-95
Member, Board of Advisors, IBS NRC - 1990-94
Founding Member Board of Directors - Saskatchewan Drug Institute - 1993-present
Member of Executive Committee - Saskatchewan Drug Institute - 1993- present
Member, Board of Directors - Pharmaderm - 1998-2000
Member, Board of Directors - Termidor - 1998-2000
Member, Medical Advisory Board - Helix Biopharma Corp. - 1999-present
Member, Board of Directors - Prairie Plant Systems - 1999-present
Member, Board of Directors - National Medical Technology Testbed (USA) 2000-2004
Member - Royal Society of Canada - Fellowship Selection Committee - 2000-2004
Member, Board of Directors - Inimex - 2002-present
Member, Council of Scientists - International Human Frontiers Science Program - 2003-present
Member of Scientific Advisory Board - EVAX - 1998-2002
Member of Scientific Advisory Board - Helix Biotech - 1998-2004
Member Scientific Advisory Board - University of Connecticut - Pfizer Centre of Excellence in Vaccine Research - 1999
Member, Scientific Advisory Board - Novalipids - 2000-present
Chair - Scientific Advisory Board - Bio-ID Diagnostics Inc. 2000-2002
Member - Scientific Advisory Board - Cytovax - 2000-2001
Member - Scientific Advisory Board - Foragen Technology Ventures - 2000-present
Member - Scientific Advisory Board - Lombard Life Sciences - 2002-present
Member - Board of Directors - International Centre for Infectious Diseases - 2004-present

Meeting Organizing Committees:

2002 Encroachment on wildlife ecosystems: New and emerging viral infections - Amsterdam, Holland. June 9-12.
2002 Third World Congress on Vaccines and Immunization - Opatija, Croatia. June 4-7.
2002 DNA Vaccines 2002 - Edinburgh, Scotland. Oct. 23-25.

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2004 DNA Vaccines 2004 – Monte Carlo, Monaco Nov. 17-19
2004 World Congress on Vaccines & Immunization – Tsukuba, Japan Sept. 30-Oct.3

Consultant:

- Genentech - 1982-86
- Molecular Genetics Inc. - 1980-84
- CIBA-GEIGY - 1986-90
- BIOSTAR - 1984-95
- Qiagen 1999-2003
- Bioniche Life Sciences 1999-present
- ID Biomedical 2004-present

Reviewer For:

Canadian Journal of Comparative Medicine
Canadian Journal of Microbiology
Journal of Infectious Diseases
Journal of Clinical Microbiology
Veterinary Pathology
Journal of Immunology
Antiviral Research
American Journal of Veterinary Research
Journal of Virology
Virology
Vaccine
Viral Immunology
Virus Research
Journal of Clinical Microbiology

Grant Reviewer For:

MRC/CIHR
NSERC
Health and Welfare Canada
British Columbia Health Care
Ontario Ministry of Health
Alberta Heritage Foundation for Medical Research
National Science Foundation
Canadian Diabetes Association
Irish National Board for Science and Technology
United States Department of Agriculture - Competitive Grants Program
National Institutes of Health (NIH – USA)
Human Frontiers Program (Europe)
European National grants (various countries)
Hospital for Sick Children Foundation

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